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ABSTRACT

This volume provides a one-page abstract for each of the vocational exemplary and innovative projects in the state of North Carolina that were funded in 1987-88 and 1988-89 as authorized by the 1984 Carl D. Perkins Act. Each abstract provides the following information: title of project; local education authority; project coordinator; address; telephone number; project period; number of students benefiting from grant; number of teachers involved; organizations or companies involved with project; expenditures from grant funds; local expenditures; total expenditures; brief description of project; objectives; procedures; products; general evaluation; and comments. The 1987-88 projects are as follows: Expanded Computer Applications in Agricultural Education; Using Telecommunications in Various Business Courses; Incorporating Advanced Business Computer/Management Training in Office Occupations I; Using Desktop Publishing in Graphics and Office Occupations or Advanced Typewriting; Using Computerized/Interactive Video Health Care Software; Child Care Services Program for Infants and Toddlers; Entrepreneurship in Occupational Home Economics; Software for Home Economics Courses; Job Opportunities Convention for Seniors; Youth and Careers--A Seminar for Parents; Tourism Marketing Curriculum Refinement; Marketing Education Classroom in Shopping Centers; Innovative Technology Education Certified Programs; Principles of Technology; Using Computer-Assisted Manufacturing Software in Metals Manufacturing Technology, Trade and Industrial Education Program; Applying Basic Skills in Vocational Education; and Entrepreneurship Challenges. The 1988-89 projects are the following: Strengthening Basic Skills through an Integrated Middle Grades Curriculum; Tourism Marketing Curriculum; Innovative Technology Education Certified Programs--Contemporary Technology; Innovative Technology Education Certified Programs--Transportation Technology; Laser Technology in Electronics; Integrative Approach to Assessment and Support Services; and Electronic Mail Network. (YLB)

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MOVING FORWARD WITH MODERN VOCATIONAL EDUCATION PROGRAMS

ABSTRACTS FOR VOCATIONAL EDUCATION EXEMPLARY AND INNOVATIVE PROJECT GRANTS 1987-88 1988-89

Division of Vocational Education Services
North Carolina Department of Public Instruction
Bob Etheridge, State Superintendent
116 West Edenton Street
Raleigh, NC 27603-1712

Dr. Clifton B. Belcher, Director Division of Vocational Education Services
November 1990

ACKNOWLEDGEMENTS

The Division of Vocational Education Services expresses appreciation to the many teachers and administrators who developed and implemented exemplary projects in 1987-88 and 1988-89. We especially thank the project coordinators who provided the abstracts contained in this book.

June S. Atkinson

June S. Atkinson, Chief Consultant
Consumer Education & Service Occupations
Division of Vocational Education Services

FOREWORD

The 1984 Carl D. Perkins Vocational Education Act authorized funds for vocational exemplary and innovative programs. During 1987-88 and 1988-89, funds were granted to local school systems on a competitive basis. These funds were used to help schools expand, improve, modernize, or develop high quality vocational education projects, services, or activities in these specific areas:

1. The improvement of the quality of vocational education, including high technology programs involving an industry-education partnership and apprenticeship training program;
2. The expansion of vocational education activities necessary to meet student needs and the introduction of new vocational education programs, particularly in economically depressed urban and rural areas of the State;
3. The introduction of new vocational education programs, particularly in economically depressed urban and rural areas;
4. The creation or expansion of programs to train workers in skilled occupations needed to revitalize businesses and industries or to promote the entry of new businesses and industries into a state or community;
5. Exemplary and innovative programs which stress new and emerging technologies and which are designed to strengthen vocational education services and activities.

The grants were awarded based upon the funds available and the number of applications meeting the minimum criteria as stated in the proposals. Department of Public Instruction Vocational Education staff prepared the requests for proposals and worked with the local school systems in implementing the projects.

Appreciation is expressed to all personnel who worked to make the projects a success.

This volume provides a one-page abstract for each of the projects funded in 1987-88 and 1988-89. It is hoped that information on these projects will be useful to other school administrative units considering similar activities.

Bob Etheridge

Bob Etheridge
State Superintendent

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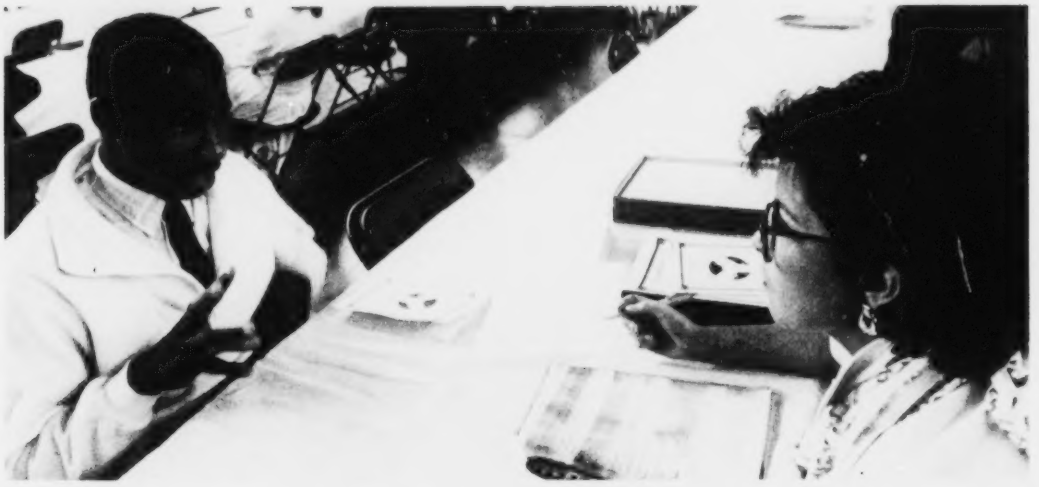

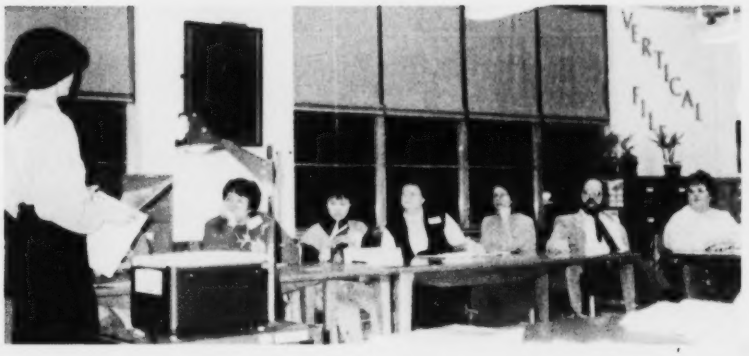

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Expanded Computer Applications in Agricultural Education

A tremendous volume of computer software and instructional materials for agriculture is available. The Ag Ed Network is a viable tool available to students enrolled in vocational agriculture. This network would greatly enhance the use of these resources in North Carolina, thus improving the quality of programs.

ABSTRACT
Vocational Education Exemplary and Innovative Projects
1987-88

Title of Project: Expanded Computer Applications In Agriculture Education

LEA: Bladen County Project Coordinator: Alton R. Davis

Address: Bladen County Board of Education Telephone No. (919) 862-4136
P. O. Box 37
Elizabethtown , NC 28337

Project Period: July 1, 1987 - June 30, 1988

No. of Students Benefiting from Grant: 393

No. of Teachers Involved: 6

Organizations or Companies Involved with Project:
AgriData Resources
Apple Computer - Logical Choice
Bladen County Board of Education
Six Bladen County Vocational Agriculture Teachers

Expenditures from Grant Funds:	$12,000
Local Expenditures:	5,000
Total:	17,000

Brief Description of Project:
A project to encourage and facilitate the development and expansion of computer application in agricultural education.
Objectives:
1. To have a more efficient and effective dissemination and communication system by linking agricultural education consultants, teachers and teacher educators through the Ag Ed Network.
2. To increase and improve the use of computer software and instructional materials.
3. To provide state-of-the-art educational experiences for students.
4. To enhance and facilitate the updating of agriculture education curriculum and teaching resources.
5. To more efficiently maintain records in students Supervised Occupational Experience Programs.
6. To enable students to complete FFA proficiency awards and American Farmer Degree application with computers.

Procedures:
Updated equipment including computers, monitors, printers, modems and communication software was placed in the agricultural departments at each of the four high schools. They were all tied to an AgEd Network system using AgriData Resources. They were also connected to a locally-developed "Community Bulletin Board" which is a computerized system for transmitting and receiving messages within the Bladen County School System. Teachers were inserviced on the use of those systems.

Products:
The LEA provided funds to cover the cost of network annual membership fee at all four high schools. A statewide workshop on AgriData was hosted by Bladen County. Students prepared reports for proficiency events on the stystem.

General Evaluation:
Much needed computers, modems, printers and computer tables were purchased for agriculture departments at Bladenboro, Clarkton, Tar Heel, and East Bladen. A very efficient and effective dissemination and communication system was developed using agricultural education teachers through AgriData and a local networking system.

Comments:
Agriculture teachers were highly motivated and they used improved communication techniques very effectively. Both AgriData Resources and the locally developed networking system were extensively used. The project was a success.

ABSTRACT
Vocational Education Exemplary and Innovative Projects
1987-88

Title of Project: Expanded Computer Applications in Agriculture Education

LEA: Caldwell County Project Coordinator: Carl Wagner

Address: Route 3, Box 600
Hudson, NC 28638
Telephone No. (704) 396-2188

Project Period: July 1, 1987 - June 30, 1988

No. of Students Benefiting from Grant: 60

No. of Teachers Involved: 10

Organizations or Companies Involved with Project:
AgriData Network

Expenditures from Grant Funds:	$2,200.00
Local Expenditures:	390.00
Total:	$2,590.00

Brief Description of Project:
Apple IIGS with printer and modem were purchased along with software to access the AgriData Network. The Agriculture teacher of South Caldwell was sent to a two-day workshop sponsored by AgriData in Elizabethtown, N.C. The local teacher held a workshop on the use of AgriData for the teachers of district VII. Nine teachers attended.

Objectives:
1. To expand the use of computers in agriculture classrooms.
2. To expand the use of the AgriData Network in the classroom.
3. To serve as a center for training other teachers.

Procedures:
The teacher at South Caldwell High School visited schools which were using the computer in the classroom and to one department which subscribed to the AgriData Network. After considerable research, hardware and software were purchased to meet the desired goals. Training was obtained by attending a two-day workshop.

Product:
Approximately 30 pieces of material have been developed for classroom use with students and more have been developed for administration of the department.

General Evaluation:
The use of computers increased in the department during the 1987-88 school year. Even more use of the computer will be made in the future.

ABSTRACT
Vocational Education Exemplary and Innovative Projects
1987-88

Title of Project: Computer Applications in Agricultural Education

LEA: Greene County Project Coordinator: Jasper Perry

Address: 301 Kingold Blvd.
Snow Hill, NC 28580

Telephone No.(919) 747-3425

Project Period: May 1, 1987 - June 15, 1988

No. of Students Benefiting from Grant:

No. of Teachers Involved: 2

Organizations or Companies Involved with Project:
Greene Central Vo. Ag. Dept. Students & Advisors
Greene Central FFA
Administrators of Greene County Schools
Greene County Vocational Education Advisory Council

Expenditures from Grant Funds:	$2,300.75
Local Expenditures:	931.94
Total:	$3,232.69

Brief Description of Project:
Greene County depends on Agriculture for its support. To include high tech Agriculture in our curriculum at Greene Central High School and to help update it with the modern age of agricultural efficiency, a computer and computer materials highly supported this goal. This project encouraged the development and expansion of the computer in our agricultural education program.

Objectives:
1. To update the agricultural education curriculum and teaching resources.
2. To increase and improve the use of computer software and instructional materials.
3. To provide educational experience for students.
4. To make available to students up-to-date Agricultural Commodities Market reports.
5. To enable students to complete FFA proficiency awards.

Procedures:
We ordered the computer hardware and communications software needed to carry out this project. We installed a telephone in the Agricultural Department. subscribed to AgriData Network, and attended a workshop on AgriData. We instructed students and a young farmers group on how to use the AgriData information. Students filled out proficiency awards with the aid of the computer.

Products:
With the use of the computer, we created Ag Tool inventory on a computer disk. Our FFA Chapter put its program of work on computer disk and made copies to send to Raleigh. We communicated with other FFA Chapters by using Stargram on the AgriData system.

General Evaluation:
By using the computer, students experienced the advantages in filling out their FFA degree and proficiency applications. The computer provided better individualized instruction for students to plan and expand their SOE program. A log of computer software was created for student and teacher use. By the students using the computer, they acquired a knowledge for individual use in the future.

ABSTRACT
Vocational Education Exemplary and Innovative Projects
1987-88

Title of Project: Expanded Computer Applications in Agricultural Education

LEA: Jackson County Public Schools

Address: 43 Hospital Road
Sylva, NC 28779

Project Coordinator: Dianne Cook, Voc. Director

Telephone No. (704) 586-9602

Project Period:July 1, 1987 - June 30, 1988

No. of Students Benefiting from Grant: 104

No. of Teachers Involved: 1

Organizations or Companies Involved with Project: 0

Expenditures from Grant Funds:	$3,000.00
Local Expenditures:	1,045.85
Total:	$4,045.85

Brief Description of Project:
The Agricultural Education program at Sylva-Webster HIgh School expanded its use of computer applications through the addition of two computers linked to the Ag-Ed Network. Two computers, a printer, and a modem were purchased with grant funds. A designated phone line was installed in the Agriculture office (adjacent to the classroom). The Agriculture teacher attended a workshop on the use of the network. Upon his return, he incorporated the use of the computer and information available through the network in his classes. Students were trained to log on to the network and get the information they needed. The program was considered worthwhile and will be continued during the 1988-89 school year.

Objectives:
1. To increase computer based instruction in the Agriculture classes.
2. To increase student knowledge of daily market information as it pertains to worldwide agricultural commodities.
3. To develop business and entrepreneurial skills by allowing students to "paper trade" commodities.
4. To provide a resource for current agricultural research.
5. To provide applications for agricultural marketing practice.
6. To supplement daily classroom instruction with the teacher preparation materials included in the Ag-Ed Network.
7. To upgrade and continually update the quality of instruction by the addition of pertinent computer technology to the agriculture curriculum.
8. To improve recordkeeping on students participating in the Supervised Occupational Experience.

Procedures:
Computers and peripherals were purchased and a phone line was installed. After attending a workshop sponsored by the Ag-Ed Network, the teacher began to incorporate information from the Network into classroom activities. Market reports, stock reports, and weather reports were used most often.

Products:
None

General Evaluation:
The grant established the means for Agriculture students to become exposed to the use of computer technology in Agricultural related careers. Students were able to see how necessary computers are in the farming industry and agri-business. Additional software has been recommended for purchase to extend the use of the computers to other applications. The Network information is very useful; however, much of it is oriented to agricultural economics. As the Network expands and additional information is provided, it will be more useful to high school classes. This project was an excellent way to initiate the integration of computer instruction to Agriculture classes.

Comments:
The program was beneficial. Membership dues to the AgriData Network have already been paid from local funds for the 1988-89 school year. It is felt that this program will motivate students and be more realistic approach to today's world of agriculture.

ABSTRACT
Vocational Education Exemplary and Innovative Projects
1987-88

Title of Project: Expanded Computer Applications in Agriculture Education

LEA: Kings Mountain District Schools

Project Coordinator: Dennis Martin

Address: P. O. Box 279
Kings Mountain, NC 28086

Telephone No.(704) 739-7286

Project Period: July 7, 1987 - June 30, 1988

No. of Students Benefiting from Grant: 80

No. of Teachers Involved with Project: 1

Organizations or Companies Involved with Project:
AgriData Network,
FMS Electronics Corp.,
Agriculture Advisory Committee

Expenditures from Grant Funds: $2,452.80

Local Expenditures: 0

Total: $2,452.80

Brief Description of Project:
The project purchased the necessary computer equipment and on-line connect time to connect the Vocational Agriculture Department into the AgriData Network. This action gives the department access into a vast amount of information and opportunity for many computer activities to facilitate instruction and information gathering and dissemination.

Objectives:
1. To have a more effective communication system for vocational agriculture at Kings Mountain Senior High School.
2. To increase and improve the use of computer software and instructional materials in vo-ag at Kings Mountain Senior High School.
3. To provide state-of-the-art experiences for Kings Mountain Senior High School vo-ag students.
4. To enhance and facilitate the updating of vo-ag curriculum at Kings Mountain Senior High School.
5. To maintain efficiently student SOE program records.
6. To enable Kings Mountain Senior High School vo-ag students to complete award applications on computer.

Procedures:
The selection of appropriate hardware and software was made by the vo-ag instructor and local director. The equipment was purchased and put into place. Training was received by the instructor in use of the computer and AgriData Network. The network was used by students and the instructor. Evaluation occurred through assessment of students time on task work with computer.

Products:
Lesson plans have been taken from the AgEd Network that were produced in many universities and state departments of education nationwide. Much data can be obtained through use of the network.

General Evaluation:
The grant placed needed computer hardware and software into the Agriculture Department. The AgriData Network provides a major communication system with a tremendous store of Agriculture information.

Comments:
The grant brought computer technology to the Vo-Ag Department at Kings Mountain Senior High School. The AgriData Network is a large communication system with a great amount of information. However, a great portion of this information is not readily applicable to the vo-ag classroom.

ABSTRACT
Vocational Education Exemplary and Innovative Projects
1987-88

Title of Project: Expanded Computer Applications in Agricultural Education

LEA: Lenoir County Project Coordinator: Edward S. Howard, Jr.

Address: P. O. Box 729
Kinston, NC 28501
Telephone No. (919) 523-8071

Project Period: July 1, 1987 - June 30, 1988

No. of Students Benefiting from Grant: 125

No. of Teachers Involved with Project: 2

Organizations or Companies Involved with Project:
Vocational Agriculture Teachers
Vocational Agriculture Students
FFA Members at South Lenoir High School
Adults/FFA Alumni Members
School Administrators
AgriData

Expenditures from Grant Funds: $2,121.81

Local Expenditures: 768.19

Total: $2,908.00

Brief Description of Project:
The Project was designed to implement the AgriData Network at South Lenoir High School. An Apple IIGS was purchased with a color monitor, printer, and 1200 baud modem. Telephone lines were installed in the two Agriculture classrooms and in the Agriculture Office. The AgriData system was used to provide up-to-date news, market reports, and other valuable agriculture information. Students also were to use the new computer and software for their Supervised Occupational Experience Programs, Proficiency Awards, and American Farmer Degree applications.

Objectives:
1. To link the Vocational Agriculture teachers and students into a communication system with other Agricultural educators.
2. To increase the use of computer software and instructional materials.
3. To provide state-of-the-art educational experiences for the students.
4. To keep the Agriculture Department up to date with the most current changes and teaching resources in agriculture.
5. To provide a more efficient method for students to keep their Supervised Occupational Experience Records.
6. To increase the number and the quality of FFA Proficiency Awards.

Procedures:
Once the phone lines, computer, and AgriData system had been installed, one of the Agriculture teachers at South Lenoir attended a workshop provided by the AgriData Network. The workshop was very beneficial to the success of the program. In addition to the AgriData, the treachers have instructed the students in the Agriculture Department on the proper use of the computer. The Agriculture teachers have purchased computer programs that relate to the curriculum that is being taught. The project has been evaluated in several different ways. A log of the computer use has been kept, showing the time students and teachers have spent working with the computer in various projects. The FFA Proficiency Awards, printed on the computer, were used for evaluating the project.

Products:
Some of the products that have been prepared from the project are: FFA Proficiency Awards, American Farmer Degree Applications, State Farmer Degree Applications, South Lenoir Agriculture Department Inventory, Chapter Program of Activities, Market Reports (farm market reports for students relating to the commodities grown on their farms), news Reports.

General Evaluation:
The addition of the Apple IIGS and the AgriData system has been a very valuable asset to the Agriculture program at South Lenoir High School. The use of the computer by the teachers and the students has increased greatly because of the computer being located in the classroom. Computer programs have been purchased that coincide with the areas of instruction. The increased use of computer instruction has added thrusts in the areas of current technology, entrepreneurial skills, and business management. The teachers have been able to use lesson plans, market reports, and other information that has been provided through the AgEd Network and AgriData. With the use of lesson plans and current information from the Network, the Vocational Agriculture curriculum has been updated. The grant has provided the South Lenoir Agricultural Department with very valuable assistance.

ABSTRACT
Vocational Education Exemplary and Innovative Projects
1987-88

Title of Project: Expanded Computer Applications in Agriculutre Education

LEA: Reidsville City Schools — Project Coordinator: Garland McCollum

Address: 920 Johnson Street
Reidsville, NC 27320 — Telephone No. (919) 324-4201

Project Period: 1987-88 School Year

No. of Students Benefiting from Grant: 40

No. of Teachers Involved: 1

Organizations or Companies Involved with Project: None

Expenditures from Grant Funds:	2,947.75
Local Expenditures:	735.20
Total:	3,682.95

Brief Description of Project:
The project allowed Reidsville Senior High School Agriculture Education program to purchase a computer and hook up with the AgriData Network.

Objectives:
1. To increase and improve the use of computer software and instructional materials in the Agriculture department at Reidsville Senior High School.
2. To provide current and relevant educational experiences for students in Agriculture Education.
3. To establish an efficient communication system with Agriculture consultants and teacher educators through the Agriculture Education network.
4. To enable Agriculture Education students to complete FFA proficiency awards and American Farmer Degree Application with computers.

Procedures:
1. Installed computer system and hook up with AgriData.
2. Provided training to Agriculture teacher on the use of AgriData Network.
3. Incorporated AgriData network into classroom instruction.
4. Maintained log of computer usage.
5. Conducted evaluation by students, teachers and vocational director.

Products:
None

General Evaluation:
The idea of the computer applications project in Agriculture Education was worthwhile, relevant, and important to keep the program and students abreast of current trends and technology.

Using Telecommunications in Various Business Courses

Telecommunications will ultimately affect everyone in the office workplace. For the past decade, we have focused on the "information age." It is predicted that the next era will be called the "telecommunications era."

ABSTRACT
Vocational Education Exemplary and Innovative Projects
1987-88

Title of Project: Using Telecommunications in Various Business Courses

LEA: Lee County Project Coordinator: Joyce J. Cotten

Address: Lee County Senior High School Telephone No.
1708 Nash Street
Sanford, NC 27330

Project Period: 1987-88 School Year

No. of Students Benefiting from Grant: Approximately 350

No. of Teachers Involved: 4

Organizations or Companies Involved with Project: None

Expenditures from Grant Funds:	$15,000
Local Expenditures:	2,000
Total:	$17,000

Brief Description of Project:
"Using Telecommunications in Various Business Courses" is a project with strong vocational potential nationwide. This project teaches students to manage the information explosion while developing a wide range of computer skills which meet current and developing labor market demands. Moving from abstract and theoretical ideas to concrete and applicable skills, the project engages students on all educational levels, promoting logical thinking, organization, and analysis skills. The project is multi-disciplinary, crossing classroom lines and motivating other students and teachers to see connections and to create educational links. The project breaks down the confines of the traditional business classroom and invites in the real business world.

Objectives:
1. To select a telecommunications service, necessary hardware, software, and other instructional materials for effective use in various business classes.
2. To train business teachers to use a telecommunications service in various business classes.
3. To develop instructional modules about telecommunications for business teachers to use in their classrooms.
4. To develop a planning guide for administrators and teachers to help them select the most appropriate service, hardware, and software.

Procedures:

1. Appropriate equipment was selected, ordered, and installed. Computers with serial boards were already available as well as communication software. A high-speed printer and three modems were purchased.
2. Contact was made with available telecommunications services, and specific information on types of services available, cost, and methods of implementing services in a school setting were investigated. As a result of this investigation, the Dow Jones News/Retrieval Service was selected.
3. Contact was made with the local telephone company as to the most appropriate telephone service for the telecommunication as well as what the needs were for the local school. The nearest "packet-switching network" (Tyment or Telenet) was Raleigh, and the local unit had to determine the most cost-effective means of getting to that service. All available resources were investigated--WATS, international lines, and the state network. The state network was selected as the most cost-effective, and appropriate application and installation proceeded. The local schools PBX system was programmed to access the classrooms that would be utilizing the telecommunication service.
4. Four teachers in the business department received training in telecommunications and were involved in writing instructional units. Ten hours of instructional units were developed and tested in the classroom as a result of the project. For example, a travel unit was developed for the Administrative Support Occupations class and involved the students in making flight arrangements, and hotel accommodations, checking the weather conditions in the travel area, and researching material to be used in a speech by the businessperson.
   A unit, developed for Computer Applications, included researching data on companies, investing a hypothetical amount of money, and following that company's stock for a period of time. The students used a spreadsheet software program to compile and depict data in graph form. They used word processing to write a summary of the entire project. A unit utilizing electronic mail was also developed for the Computer Applications classes. In Introduction to Computers, units were developed to research data, obtain information on personalities in the news, check weather conditions in different parts of the world, obtain movie and book reviews, and research colleges.
5. Information was researched and collected for the writing of an Educator's Guide to Telecommunications.
6. Teachers from outside the business department became excited about the wide range of applications and requested training. As a result, the project coordinator completed a ten-hour in-service workshop for local teachers.
7. The project coordinator did a presentation at Vocational Summer Conference on Implementing Telecommunications in the school systems.

Products:

1. Educator's Guide to Telecommunications.
2. Units of Instruction were developed for the following courses: Computer Applications I and II, Administrative Support Occupations, and Introduction to Computers. (These units could also be adapted for use in other business courses.)

General Evaluation:
The following positive outcomes resulted from this project:

1. Students developed increased proficiency in accessing a broad range of available information.
2. Students identified information relevant to business objectives.
3. Students demonstrated self-management skills in approaching and organizing materials.
4. Decision-making skills were developed.
5. Students spent less time locating and recording information and more time interpreting and analyzing what they had found.
6. Students increased their vocabulary usage.
7. Students demonstrated marked enthusiasm for this new technology and "electronic information," and requested greater access outside of normal classroom time.

Comments:
What an exciting time to be involved with Business and Office Education. Telecommunication provides the means to "Bring the World Into the Classroom." There is unlimited potential for every course in the BOE curriculum.

ABSTRACT
Vocational Education Exemplary and Innovative Projects
1987-88

Title of Project: T. A. L. K. (Telecommunications Aids in Learning the Keys)

LEA: Lincoln County Schools

Project Coordinator: Jo Anne Potts/ Carolyn Stover

Address: P. O. Box 400
Lincolnton, NC 28092

Telephone No. (704) 732-2261
(704) 732-4084 (LCST)

Project Period: July, 1987 - June, 1988

No. of Students Benefiting from Grant: 300+

No. of Teachers Involved: 4

Organizations or Companies Involved with Project:
AT&T
Dialog
Dow Jones
ERIC MICROsearch
Milady Publishing Company

Expenditures from Grant Funds:	$12,255.67
Local Expenditures:	500.00
Total:	$12,755.67

Brief Description of Project:
This project was designed to incorporate telecommunication services into the curriculum of Introduction to Business, Introduction to Computers, and Administrative Support Occupations I and II. A list of suggested equipment is mentioned; however, this project is not limited to any particular hardware, software, or news retrieval service.

Objectives:
1. To become familiar with the various types of telecommunication used in the business world.
2. To realize the time-saving devices using telecommunication in research.
3. To become familiar with terms used in telecommunication.
4. To be able to identify hardware and software necessary for telecommunication.
5. To perform a variety of telecommunication tasks through activities and a simulation.
6. To use a telecommunication news retrieval service.
7. To become aware of the impact of telecommunication on society.

Procedures:
Before implementing the project, the four teachers involved visited Lee County High in Sanford, NC to observe the progress of their setup in telecommunications. Modules were developed for classroom activities in telecommunications after extensive research and direction under the supervision of Betty Jackson, Lincoln County Vocational Education Director. All Lincoln County business teachers were invited to a workshop on Telecommunications, where they were orientated to the use of telecommunication services in business as well as the classroom. Then the modules were field-tested by students in the Introduction to Business, Introduction to Computers, and Administrative Support Occupations I and II classes.

Products:
Three modules were prepared for use by the four business teachers as well as other business teachers in the county. One Administrator & Teacher Decision Module was created by Dr. Stephen Canipe, Principal at LCST. A project description, materials and equipment needed, goals and objectives, suggested classroom activities, and test items were included in the four modules.

General Evaluation:
The modules in telecommunications were found to be interesting and easy to use. They created a tremendous amount of student interest and involvement. During the course of the year, it was our goal to involve all students in the Introduction to Business, Introduction to Computers, and Administrative Support Occupations I and II classes in this worthwhile project.

Comments:
Even though the work on the grant took a tremendous amount of time, we found it to be of benefit to us as well as our students. Our only regret is that more time was not allowed in the planning stages.

Incorporating Advanced Business Computer/Management Training in Office Occupations II

Students are currently acquiring marketable skills such as keyboarding, word processing, data processing, office procedures, accounting, and written/oral communications skills in business classes. The skills of accountability, responsibility and time management should be incorporated with the above skills so that business students will be better prepared for success and advancement in an information society.

ABSTRACT
Vocational Education Exemplary and Innovative Projects
1987-88

Title of Project: Incorporating Advanced Business Computer Management Training in Administrative Support II

LEA: Kings Mountain District Schools

Project Coordinator: Sheila Sisk

Address: Kings Mountain Senior High School
500 Phifer Road
Kings Mountain, NC 28087

Telephone No.(704) 739-7286

Project Period: July 1, 1987 - June 30, 1988

No. of Students Benefiting from Grant: 29

No. of Teachers Involved: 3

Organizations or Companies Involved with Project:
Project Advisory Committee
FMS Electronics Corporation
Dr. Griggs McKinnon, Rutherford County Schools Computer Technologist
Robert Falls, Radio Shack Consultant

Expenditures from Grant Funds: $48,293.45

Local Expenditures:	0
Total:	$48,293.45

Brief Description of Project:
Kings Mountain Senior High School Business Department established a program where Administrative Support II students were in an electronic office environment. A multi-user/multi-tasking networked system (Xenix Operating System) was used by students to train for advanced computer management. Each student was given the opportunity to participate in a management experience by being in an office manager role. The Administrative Support II class, during the school year (1988-89) maintained an advanced computer management system with a small participating business.

Objectives:
1. To alter and expand existing competencies in Administrative Support II to include integration of spreadsheet management, database management, time management, telecommunication, word processing, graphics, and system query and retrieval.
2. To establish a multi-user/multi-tasking networked computer training in a simulated electronic office environment.
3. To select appropriate software that will teach advanced/management training in Administrative Support II.

4. To adopt instructional units in the following: Information Processing Background/The Electronic Office, Integrated Information Processing Document Origination, "Psychology of Winning," Supervisor/Management Techniques, Time Management, Electronic Communication, Office Environment, System Purchasing Criteria.
5. To determine training that is needed for teachers who will teach advanced computer management.

Procedures:
Three business teachers, the Vocational Director and Robert Falls visited a model program in Salt Lake City, Utah. An advisory committee was then organized to give the teachers support and suggestions. The lead teacher has attended many workshops in business software and has written modules. The Xenix Operating System was installed in June 1988 and teachers received training on the multi-tasking/multi-user network system. The lead teacher has developed an administrator's handbook for the computer system. The setting and maintaining of computer management with the small participating business is presently being developed and implemented. There is an ongoing evaluation of students in this class by the lead teacher and the employers of the students.

Products:
Instructional modules were being developed, adopted, and modified in the following areas: spreadsheet management, telecommunication, graphics, database management, time management, word processing, system query and retrieval. These instructional modules have competency goals, objectives, activities, and test items.

General Evaluation:
Students have access to computer hardware and software that will prepare them for the world of work. Teachers have been trained to use computer hardware and software to better prepare students for a high tech computer world.

Comments:
The project is presently being implemented.

Using Desktop Publishing in Graphics and Office Occupations or Advanced Typewriting

Both large and small companies are dramatically improving the quality of their public image and saving money by using personal computers for desktop publishing. Combining laser printers, personal computers, and page composition software is giving companies another option in preparing professional documents.

ABSTRACT
Vocational Education Exemplary and Innovative Projects
1987-88

Title of Project: Using Desktop Publishing in Graphics and Office Occupations or Advanced Typewriting

LEA: Buncombe County

Project Coordinator: Howard Bridges

Address: P. O. Box 15055
Asheville, NC 28813

Telephone No. (704) 274-7955

Project Period: September 15, 1987 - June 10, 1988

No. of Students Benefiting from Grant: 73

No. of Teachers Involved: 2

Organizations or Companies Involved with Project: None

Expenditures from Grant Funds:	$17,000.00
Local Expenditures:	0
Total:	$17,000.00

Brief Description of Project:
In order to teach desktop publishing in Graphics and Office Occupations, appropriate software and hardware had to be selected. Materials to teach desktop publishing were selected or developed and field-tested in our classrooms.

Objectives:
1. To select and evaluate desktop publishing and word processing software in order to select one for further testing and use in Graphics and Office Occupations.
2. To field-test existing classroom instructional materials for use in teaching students to use the selected software for desktop publishing in our classrooms.
3. To select hardware to implement software programs and implement instructional unit in Graphics and Office Occupations.
4. To evaluate selected hardware and make recommendations concerning minimum needs for a Graphic Arts or Office Occupations class.

Procedures:
After evaluating various types of hardware and desktop publishing software, Macintosh Plus computers, Imagewriter LQ printers, scanner and modem were selected as the equipment, Microsoft Word 3.01 and Pagemaker 2.0 programs were selected as the software. The project was evaluated and judged successful based on materials generated and presented with this report. Students were able to obtain a high level of proficiency.

Products:
Clyde A. Erwin High School Teacher Manual, Literary Magazine, Academic Awards Banquet Program, All Sports Program, Southern Association Report, Junior-Senior Invitations and Program, Guidance and School Newsletters, forms for Clyde A. Erwin High School and Buncombe County Central Office, State Newsletter for IA Teachers, State Newsletter for Principals, T-Shirt designs.

General Evaluation:
The software and hardware selected for this desktop publishing project proved to be very successful for our purposes in our classrooms at Clyde A. Erwin High School.

ABSTRACT
Vocational Education Exemplary and Innovative Projects
1987-88

Title of Project: Integrating Desktop Publishing in Graphics and Business Office Education

LEA: Buncombe County

Project Coordinator: Howard Bridges

Address: Buncombe County Schools
P. O. Box 15055
Asheville, NC 28803

Telephone No.(704) 274-7955

Project Period: September 1, 1987 - June 30, 1988

No. of Students Benefiting from Grant:
During the initial year of the grant (1987-88) the number of students involved was limited to approximately 35 students. More important is the number of students who will benefit from the grant during the 1988-89 and subsequent school years. This will include all students enrolled in Administrative Support Occupations, Computer Applications and Graphics.

No. of Teachers Involved with Project: 2

Organizations or Companies Involved with Project: 0

Expenditures from Grant Funds:	$17,000.00
Local Expenditures:	7,430.00
Total:	$24,430.00

Brief Description of Project:

Objectives:
1. To select equipment for desktop publishing.
   We chose the IBM Personal System/2 Model 30 and Model 60 computers, and the IBM Personal Pageprinter (laser printer).
2. To select software for use in both programs.
   The following software was selected:
   Aldus PageMaker
   Microsoft Windows
   WordPerfect 5.0
3. To develop instructional modules.
   See: Products Prepared
4. To survey the community to determine the types of businesses that use desktop publishing.

Procedures:
The Desktop Publishing Project was a joint effort of Business and Office Education and Graphics Departments of A. C. Reynolds High School. Our major goal was to develop a program for teaching desktop publishing skills in both areas.

The departments worked together in teaching desktop publishing. This gave the students the advantage of having two teachers--the business teacher with expensive computer training and experience, and the graphics teacher with a professional background in the printing industry. The combination of the expertise of these two teachers was a very positive factor in the development of the program.

Following the selection of software and equipment, small groups of students in Graphics II and Administrative Support II were selected to be involved in the initial project. These students were instructed in the use of PageMaker and WordPerfect using the IBM computer. They developed a wide variety of publications including business forms, business cards, program brochures, newsletters, transparency masters, and conference materials.

Products:
Instructional Modules
- Introduction to Desktop Publishing
- The Publishing Cycle
- Preparing a Newsletter

Transparency Masters for use in each of the above modules
Test Items for each of the above Modules
A Desktop Publishing Glossary
Suggested Activities for Desktop Publishing
Competencies to be developed in the DTP component of Business and Office Education courses have been identified. (This was accomplished by the Computer Applications Curriculum Development Committee, of which Reynolds High School business teacher Phyllis Lytle is a member.)

General Evaluation:
First and foremost, we have an enhanced vocational program with expanded competencies for graphics and business education students.

The objective of our program is to prepare students for initial employment and post-secondary training in vocational areas. The desktop publishing program will develop marketable skills in relatively new and rapidly expanding area. It will also provide students additional knowledge to pursue post-secondary training in graphics and business and office education.

Positive Outcomes:
A positive effect of this program is that it will reduce the amount of time required for training graphic students in the area of document design. The computer-aided instruction makes it easier for students to learn the basics of document design, an aspect which frequently discourages some students of graphics.

The development of desktop publishing skills in business office education will provide students with enhanced marketable skills. Their word processing skills will have added importance with the desktop publishing application.

The cooperation of the two vocational programs in this project proved to be very rewarding. We found tremendous opportunities for business and graphics students and teachers to work together sharing knowledge and skills. Business students frequently provided the word processing skills and graphics students the layout and design expertise. The joint projects developed were a source of pride for both groups; two, in particular, were the Vocational Honor Society and graduation program brochures.

Comments:
Desktop publishing programs such as Aldus' PageMaker, Xerox's Ventura and Software Publishing Company's First Publisher, and word processing programs, such as Word Perfect 5.0 and Microsoft Word offer many powerful features. It is necessary for teachers to become skillful in the use of the program(s) selected. Teachers should be aware that this does require some extra effort and training on the part of the teacher.

Although the Desktop Publishing Project required a great deal of extra time, study, effort and hard work, it was a very rewarding experience for those of us at A. C. Reynolds High School.

ABSTRACT
Vocational Education Exemplary and Innovative Projects
1987-88

Title of Project: Desktop Publishing for Graphics and Office Occupations

LEA: Chapel Hill-Carrboro City Schools
Chapel Hill High School

Project Coordinator:
R. Wayne Herndon,
Vocational Director

Address: Lincoln Center
Merritt Mill Road
Chapel Hill, NC 27514

Telephone No. (919) 967-8211

Project Period: July 1, 1987 - June 30, 1988

No. of Students Benefiting from Grant: 58

No. of Teachers Involved: 2

Organizations or Companies Involved with Project:
Tandy Radio Shack Computer Center
South Square Mall
Durham, NC

Expenditures from Grant Funds:	$17,000
Local Expenditures:	200
Total:	$17,200

Brief Description of Project:
This project determined desktop publishing software and hardware appropriate for use in both graphics and office occupations courses. Aldus PageMaker software on MSDOS computer hardware (Tandy) was selected for use in the project. Teaching modules for five hours of classroom instruction were developed for use in high school vocational classes.

Objectives:
1. To select a desktop publishing software and hardware for graphics and office occupations.
2. To develop and test instructional desktop publishing units.
3. To train teachers to use software.

Procedures:

A. **Software/Hardware** - A survey of literature as well as a survey of Triangle area businesses led to the conclusion that Aldus PageMaker was the appropriate desktop publishing software for area student training in graphics and office occupations. PageMaker (version 1.0a) for the MS-DOS computers was selected instead of PageMaker written for the Apple Macintosh. Since MS-DOS Tandy computers were already being used in Chapel Hill High School's office occupations course, teachers and students would not be forced to learn a different computer operation. Also they already would know "PFS: First Choice" software instead of having to learn a different Macintosh word processing package. Additionally, Tandy Computer Center educational representatives were readily available to assist with teacher training and implementation of the project. The MS-DOS computer systems with color monitors and hard disk drives were also less expensive than similar Macintosh systems.

B.**Staff Development** - The graphics and office occupations teachers were provided staff development training in Aldus PageMaker software on the Tandy computers. During the project period, the remaining vocational teachers at Chapel Hill High School were offered staff development training on MS-DOS computers and First Choice software in order to better prepare them for desktop publishing training during the 1988-89 school year.

C. **Competencies** - Aldus PageMaker software was determined to be appropriate for training purposes in both graphics and office occupations. The following competencies are some of the more necessary ones that enable students to be successful with desktop publishing training:

1. The student will be able to install Aldus PageMaker software from floppy disks onto the hard disk drive.
2. The student will be able to properly utilize the "PageMaker Users Manual" for various page layout manipulations.
3. The student will be able to "place" and manipulate text movement from a word processing package into PageMaker page layouts.
4. The student will be able to "place" and manipulate scanned graphics into PageMaker page layouts

Products:

Modules for five hours of .classroom instruction

General Evaluation:

The project was successful since the technology of desktop publishing was introduced to the graphics and office occupations courses. It was necessary for teachers of both courses to collaborate on training and teaching material. Also, they spent more time than usual in the other teacher's class which gave them and their students more exposure to other occupational content. The teaching modules will be beneficial in programs which opt for PageMaker software on MS-DOS computer systems.

ABSTRACT
Vocational Education Exemplary and Innovative Projects
1987-88

Title of Project: Using Desktop Publishing in Graphics and Office Occupations or Advanced Typewriting

LEA: Dare County

Project Coordinator: Kathey Underwood

Address: P. O. Box 640
Manteo, NC 27954

Telephone No. (919) 473-1151

Project Period: July 1, 1987 to June 30, 1988

No. of Students Benefiting from Grant: 100

No. of Teachers Involved: 3

Organizations or Companies Involved with Project:
Dare County Board of Education
Manteo High School
Desktop Publishing Advisory Committee
MicroAge

Expenditures from Grant Funds:	$15,680.80
Local Expenditures:	0
Total:	$15,680.80

Brief Description of Project:
This project reviewed and evaluated available hardware and software for use in desktop publishing. Selections were made including 3 Macintosh Computers, Laserwriter, Imagewriter, and PageMaker. Competencies and instruction for 5 class periods were developed and utilized.

Objectives:
1. To select a desktop publishing software program and necessary hardware for effective use in Graphics, Administrative Support Occupations, and Keyboarding classes.
2. To train Manteo High School graphics and business teachers to use desktop publishing software in the classroom.
3. To develop desktop publishing instructional units for graphics and business teachers.
4. To determine the feasibility of usage of the selected software in business and graphics courses.

Procedures:
1. An advisory committee was selected.
2. Local businesses were surveyed for use of desktop publishing.
3. Software and hardware were previewed.
4. Demonstrations and workshops were attended.
5. Selections were made based on curriculum needs.
6. Inservice was provided by MicroAge after purchase.
7. Classroom instruction including competencies, activities, and evaluation was developed and utilized.
8. Students evaluated instruction.
9. Inservice was conducted for teachers and central office staff.

Products:
1. Five hours of classroom instruction appropriate for graphics and business classes.
2. Numerous documents and forms including Program and Administrative Review document.

General Evaluation:
The grant provided the opportunity to evaluate and purchase hardware and software for desktop publishing. It provided the incentive for the teachers who were involved to become proficient in the use of the Macintosh and PageMaker.

Students have been given a valuable introduction to technology that is just becoming prevalent in the industry. They realize that this gives them an advantage in the job market. Involvement in this project has been instrumental in keeping the teachers current in the use of advanced technology.

Comments:
One of the most exciting outcomes of this grant is the realization of the amazing capability and use of desktop publishing.

Using Computerized/Interactive Video Health Care Software

Preparation of health care workers is being enhanced through the use of computerized/interactive video software. While in the classroom/laboratory, potential health team members are being challenged to think analytically and critically, problem solve, and become more proficient in making decisions prior to administering health care services.

ABSTRACT
Vocational Education Exemplary and Innovative Projects
1987-88

Title of Project: Computerized/Interactive Video in Health Care

LEA: Lincoln County Schools

Project Coordinator: Glennie Beam
Patsy Wright

Address: P. O. Box 400
Lincolnton, NC 28092

Telephone No. (704) 732-2261
Lincoln County School (704) 732-4084

Project Period: September 1, 1987 - June 30, 1988

No. of Students Benefiting from Grant: 50

No. of Teachers Involved: 2

Organizations or Companies Involved with Project:
Health EduTech, Inc., Minneapolis, MN
Applied Interactive Technologies, Jackson, MS
Professional Training Systems, Inc., Atlanta, GA.
American Technology Resources, Media, PA
Stewart Publishing, Inc., Alexandria, VA

Expenditures from Grant Funds: $9,841.06

Local Expenditures: 0

Total: $9,841.06

Brief Description of Project:
A major goal of the project was to identify and to select software and the necessary hardware for effective use in the secondary Health Occupations Education curriculum. Materials were obtained from various vendors in order to determine the materials that are currently available. One instructor attended the conference on "Learning Technology in the Health Care Sciences" (Orlando, FL - Feb. '88) which was sponsored by SALT (Society for Applied Learning Technology). Many exemplary materials were viewed along with impressive presentations of innovative uses - simulations, voice recognition command, etc. A module of the findings was prepared and distributed to HOE teachers statewide at the Vocational Summer Workshop ('88) presentation.

Objectives:
1. To select computerized/interactive video health care software and the necessary hardware for effective use in the secondary Health Occupations Education curriculum.
2. To produce informational materials concerning the project and to distribute these on a statewide basis.
3. To train secondary Health Occupations Education teachers to use computerized/interactive video health care software.

Procedures:
Once materials were identified, the following individuals were involved in the evaluation process as to appropriateness to the HOE curriculum: students, faculty, advisory board members (representing various health professions), media specialists, and other staff members. The resource of printed materials and project presentation were further evaluated at the Vocational Summer Workshop - '88.

Products:
A printed module of the project findings was compiled and distributed at the Vocational Summer Workshop - '88. This packet of information included courseware descriptions, vendors and addresses, glossary, reference materials, and evaluation sheet to be used as a resource for HOE teachers in selecting and utilizing computerized/interactive video health care software.

General Evaluation:
Interactive video is a motivating, self-paced mode of instruction which actively involves students. The information presented is consistent from class to class and can be repeated as many times as necessary. Some of the disadvantages of laser video are: initial costs, materials being hardware specific, no standardization of software materials, etc. Much of the material previewed was geared toward professional or more advanced audiences; however, there were several programs that were appropriate to the secondary-level student and specifically to the Health Occupations Education curriculum.

Comments:
This project was truly a learning experience for the teachers involved. Ordering software, previewing and evaluating materials, etc. was very time consuming and was done in addition to regular teaching activities. The cost of interactive video is certainly a deterrent to the majority of secondary programs. Alternate strategies include leasing, sharing of materials (& costs) with community health agencies, or purchaing for entire school systems or regions. This is an exciting educational tool which offers much potential when costs are reduced.

Child Care Services Program for Infants and Toddlers

Students in Child Care Services are likely to get a job caring for infants and toddlers. At the present time, the current child care programs focus is on three- and four-year olds. Our state is 13th in the nation in the high number of teenage pregnancies. In addition, our state has the largest number of working women than any other state. To meet this special need, schools need to expand the Child Care Services Program to include infants and toddlers.

ABSTRACT
Vocational Education Exemplary and Innovative Projects
1987-88

Title of Project: Child Care Services for Infants & Toddlers

LEA: Ashe County

Project Coordinator: Nancy Severt

Address: Ashe County Career Center
P. O. Box 450
West Jefferson, NC 28694

Telephone No. (919) 246-2112

Project Period: July 1, 1987 - June 30, 1988

No. of Students Benefiting from Grant: 30

No. of Teachers Involved with Project: 1

Organizations or Companies Involved with Project:
Mt. Jefferson Child Development Center
Mt. Paddy Christian Day Care
Our World Day Care
Wee the People (day care)

Expenditures from Grant Funds:	$4,952.84
Local Expenditures:	0
Total:	$4,952.84

Brief Description of Project:
The primary purpose of the Child Care Services for Infants and Toddlers grant was to develop a program for child care students relative to in class and on-the-job work experience to include infants and toddlers.

Objectives:
1. To train child care services students to work with infants and toddlers.
2. To evaluate the program and facility at Mt. Jefferson Child Development Center to meet the needs of infants and toddlers.
3. To provide a work experience for the child care services students at Mt. Jefferson Child Development Center.
4. To expand the curriculum in Child Care Services to include infants and toddlers.
5. To serve the special needs of teenage parents and working families by quality child care.
6. To provide workshops in parenting to teenage parents and young working couples while providing quality child care.
7. To organize an advisory committee of community personnel to assist with the total administration of the project.

Procedures:
The following community personnel were utilized to assist with the students receiving on-the-job and classroom training.

a. Directors at:	Mt. Jefferson Child Development Center
	Mt. Paddy Christian Day Care
	Our World Day Care
	Wee the People
b. Workshops conducted by:	Dr. Carol Wright, ASU
	Debbie Cryer, FPG
	Jane Hall, WCU
	Nancy Severt, ACCC
c. Students toured facilities at:	Appalachian State University
	Wilkes Community College
	Frank Porter Graham Research Center, Chapel Hill

Child Care Services students received classroom instruction, on-site training at local day care centers and provided quality child care to the children of parents attending the five workshops.

General Evaluation:
Approximately 40 adults attended the workshops with an average of 12 children receiving child care. The students received $6.00 a session for providing child care for 2 1/2 hours. Local child care personnel received staff development credit for these workshops. Many of the parents in the foster parents program also attended. An evaluation form was used at each workshop, reviewed and then given to the presenters.

Approximately 24 puppets were constructed and several puppet presentations were given to the children at day care centers

Comments:
The grant allowed the community as well as students to hear professionals in the child care field. Many materials were purchased directly relating to infants and toddlers which enabled the child care students to better plan their time with infants and toddlers.

ABSTRACT
Vocational Education Exemplary and Innovative Projects
1987-88

Title of Project: Project I. T. S. (Infant/Toddler Services)

LEA: Lincoln County

Project Coordinator: Linda Spencer

Address: P. O. Box 400
Lincolnton, NC 28092

Telephone No. (704) 732-4084-LCST
(704) 735-0487

Project Period: August 1987 - June 1988

No. of Students Benefiting from Grant: 45 in 1988, numerous in years to come.

No. of Teachers Involved: 7 (6 of these are on the advisory committee)

Organizations or Companies Involved with Project:
First Baptist Children's Ministry, Lincolnton, N.C.
Lincoln County Home Economics Advisory Committee
SAS Institute, Cary, N. C.
Lakewood Avenue Children's School, Durham, N.C.
Frank Porter Graham Child Development Center, UNC-Chapel Hill, N.C.

Expenditures from Grant Funds:	$5,000
Local Expenditures:	0
Total:	$5,000

Brief Description of Project:
The project involved infant/toddler services. It helped to increase knowledge in the area of infant/toddler care in the day care centers, as well as the caregiver at home. Special focus was upon developing modules for training students for infant/toddler services. A workshop was held for parents of infants and toddlers. The project created a greater awareness for quality care in the area of infants and toddlers.

Objectives:
1. To expand child care curriculum to include infants and toddlers.
2. To assist teenage parents with infant/toddler care.
3. To involve area child care workers in project.

Procedures:

1. Existing competencies have been identified in Child Care Services that are appropriate for working with infants and toddlers. These have been incorporated into the modules.
2. The curriculum was expanded to emphasize the infant/toddler age groups.
3. The advisory committee met several times to discuss competencies and to advise on the development of the modules for this grant.
4. Four learning modules were developed.
5. Modules have been developed using multimedia, multisensory, and multimodal devices.
6. Internships were established for students in the area day care centers in their infant/toddler areas. Field trips were taken to Gaston College, and speakers came to the Child Care Class.
7. Appropriate software and audiovisuals were purchased and an evaluation package was developed.
8. The four modules have been distributed to the Child Care Services teachers at the Vocational Summer Workshop. Also, a copy of the evaluation package was distributed.
9. Eight Day Care Centers participated as a part of this project.
10. A workshop was held on March 31 for parents of infants and toddlers and day care workers. It was conducted by Debbie Cryer from Frank Porter Graham Child Development Center - UNC Chapel Hill.
11. Teenage parents were identified and special materials were purchased to help them. Group discussions as well as individual discussions were held to better determine needs. Teenage parents attended the workshop.

With the help of the Home Economics Advisory Committee in Lincoln County and the area day care centers, internships were started in for infant/toddler care. Computer software, videos, and other materials were ordered and evaluated. Four modules were written and field tested by the Child Care Services students. Instructor visited exemplary infant/toddler programs in the state and attended workshops on infant/toddler care. The workshop for parents of infants and toddlers was held in March. The instructor conducted a workshop at the Vocational Summer Workshop for Child Care Services teachers. Teachers attending the workshop received copies of the four modules and the evaluation package.

The evaluation for this project has come through the number of compliments received from people that have received the modules. The teachers at Summer Workshop were very grateful to receive the modules. Evaluations were also done through the general evaluation for Summer Workshop. Parents attending the Infant/Toddler Workshop were also very complimentary of the speaker Debby Cryer and the information she shared. The modules were also field tested. The students were given a written test after completion of each module. The students exhibited a high degree of achievement.

Products:
Four modules were prepared on Infant and Toddler Services. The titles of the modules are: Centers for Infants and Toddlers, Environmental Space for Infants and Toddlers, Budgeting Infant/Toddler Programs, Curriculum Planning for Infants and Toddlers. An evaluation package was developed for the computer software, filmstrips, and videocassettes that were purchased through this grant.

General Evaluation:
The project was very successful. The amount of work and time that went into this project was worth more than the $5,000 received. The modules are of excellent quality and will be well used by the Child Care Services teachers in North Carolina. The grant offered the instructor an opportunity to attend workshops and visit day care centers that would have been difficult otherwise. As a result of this project, the instructor has grown professionally and has a better knowledge of infant/toddler services.

ABSTRACT
Vocational Education Exemplary and Innovative Projects
1987-88

Title of Project: Child Care Services for Infants and Toddlers

LEA: Rowan County

Project Coordinator: Mrs. Ramona Wilson

Address: North Rowan High School
Whitehead Avenue
Spencer, NC 28159

Telephone No. (704) 636-4420

Project Period: July 1, 1987 - June 30, 1988

No. of Students Benefiting from Grant: 81

No. of Teachers Involved: 1

Organizations or Companies Involved with Project:
First Step Childcare Learning Center, Salisbury, NC
Jack and Jill Day Care Center, Salisbury, NC
First Methodist Church Child Development Center, Salisbury, NC
Rowan-Cabarrus Early Childhood Center, Salisbury, NC

Expenditures from Grant Funds:	$5,000
Local Expenditures:	0
Total:	$5,000

Brief Description of Project:
The Child Care Services program at North Rowan High has been expanded to serve infants to three-year-old children. Students have become more aware of the needs, the care, and the expectations of this age group since they are now able to work first-hand with these little people. This has been such an asset because a number of our students are already mothers and fathers. Since the program began in September, 1987, three of the Child Care students have secured part-time jobs at the centers while six students are enrolled in the Rowan-Cabarrus Early Childhood Center in Salisbury. Working with infants and toddlers has been such an inspiration to our young men in child care that one would like to open his own day care center in the future. With the cooperation of the vocational guidance counselor, Mrs. Paula Helfer, a Parent Education Program was implemented. Discussion meetings were held with the students who are mothers in the Child Care Program serving as leaders. Several parents of the child care students participated in the meetings. The Health Department and the school nurse were available for meetings. A question and answer period was held.

Objectives:
1. To train Child Care Services students to work with infants and toddlers.
2. To evaluate a program and facility for the Child Care Services program to meet the special needs of infants (0 to 2 years) and toddlers (2 years).
3. To provide a work experience in a Child Care center serving infants and toddlers.
4. To expand the curriculum in Child Care Services to include infants and toddlers.
5. To serve the special needs of teenage parents and working families by providing quality child care.
6. To increase public awareness of Child Care Services that are offered at North Rowan High School.

Procedures:
The instructors and teachers at the Day Care Center work very cooperatively with our students in Child Care Services providing in-service training and hands-on activities which consist of working closely with children from six weeks to three years old. Students visited the Headstart Program, the Enrichment Center and the Child Development Center at Rowan-Cabarrus Technical College. A very informative and educational tour was the visit to the School for the Deaf and the Western Carolina Center located in Morganton, NC. Teachers at the various day care centers evaluated the students as well as myself. Child Care students made bulletin boards, different types of art work, and even helped prepare snacks and regular meals.

Products:
1. A curriculum guide was planned for infants and toddlers to supplement the state curriculum.
2. VCR tapes were made from special TV programs on different phases of child care, especially those including birth to three years of age.
3. Bulletin boards were planned, made and used.
4. Inexpensive toys were made by the child care students to be used in the department.
5. Posters and booklets were made on different areas of child care for the young children such as safety, health, etc.
6. As a result of the past year, a yearly budget will be planned, with the students help, to teach students to be aware of the finances that may occur.
7. Plans are being made to have toddlers visit the Child Center at North Rowan.

General Evaluation:
1. Conferences were held with the day care teachers at least four times during the school year to discuss the students' progress.
2. Students kept a progress report or file on themselves throughout the year.
3. Teacher also kept a progress file on each student working at the day care centers.

Comments:
The grant was a big need for North Rowan since so many of our students are parents or will be in a few months. It has provided equipment, supplies, and even trips that would not have been possible without the money made available through the Child Care grant. Future plans are under study for a day care center at North Rowan.

Entrepreneurship in Occupational Home Economics

The Level II Occupational Home Economics courses are being emphasized in the Program of Studies, Revised 1987. In the Level II part of the program, entrepreneurship is a new focus. Teachers need training to include this in their program.

ABSTRACT
Vocational Education Exemplary and Innovative Projects
1987-88

Title of Project: Entrepreneurship in Occupational Home Economics

LEA: Rocky Mount City

Project Coordinator: Doris H. Jones

Address: 308 S. Tillery Street
Rocky Mount, NC 27804

Telephone No. (919) 977-3085 (School)
(919) 442-7152 (LEA)

Project Period: July 1987 - August 1988

No. of Students Benefiting from Grant: 960

No. of Teachers Involved: 12

Organizations or Companies Involved with Project:
N.C. Small Business & Tech. Center, Elizabeth City
Pied Piper Child Care Center, Rocky Mount
Darvin's Sandwiches, Steaks, & Hoagies, Rocky Mount
Ben Casey Photography, Nashville
Julia's Fabrics and Crafts, Tarboro
Fantastic Sam's, Dunn
Ricks Beauty Shop, Rocky Mount
City of Durham
Temporary Office, Spring Hope
Marshbanks, Inc., Wilson
Carrie's Creations, Rocky Mount
Allstate Insurance, Rocky Mount
Raleigh-Durham Airport Authority
Rocky Mount Chamber of Commerce
Builders Federal Savings & Loan, Rocky Mount

Expenditures from Grant Funds:	$8,900
Local Expenditures:	0
Total:	$8,900

Brief Description of Project:
This workshop included 12 Level II Occupational Home Economics teachers who were preparing to instruct their students on entrepreneurship as a career alternative. Professionals with expertise in entrepreneurship and those who saw an opportunity and took the risks served as consultants for the 2 1/2 day workshop. The inservice included all ramifications of running a successful operation from choosing the right business ... to how to bail out and land soft.

Objectives:

1. To develop an in-service on teaching entrepreneurship in the Level II Occupational Home Economics classroom.
2. To provide an in-service to ten or more Level II Occupational Home Economics teachers where they (a) receive instruction on entrepreneurship and (b) develop lesson plans to use in the classroom teaching of entrepreneurship.
3. To determine the practicality of the lesson plans for the students.

Procedures:

After registration, participants and consultants were given an opportunity to get acquainted.

An overview, as well as rules of attendance, were presented to the participants. The sessions were conducted by consultants who presented the textbook theory on starting and operating a small business, followed by local successful entrepreneurs who shared the practical approach.

Products:

As part of fulfilling the requirements of the workshop, the participants prepared lesson plans on entrepreneurship to be used with their respective students. These plans covered each of the Level II occupational courses presently being taught in the state.

This proposal was entered in the National Federation of Independent Business Foundation Awards Program. While the proposal did not place in the competition, a letter of commendation was received by the writer/coordinator.

General Evaluation:

The responses from the participants concerning the workshop were positive and exemplary. Comments made by the Consultants were encouraging and suggested that we were headed in the right direction.

Comments:

It is clear that vocational education has a role and responsibility to become more responsive to the nation's need for competitive advancement. With significant changes expected in the workplace by the year 2000, it is imperative that not only should vocational education help prepare students in basic job seeking skills but also develop in students an awareness of entrepreneurship as a career alternative.

Software for Home Economics Courses

All Consumer and Occupational Home Economics courses were revised for 1988-89. There is a need for supplementary materials including software to be identified to enrich the curriculum for students.

ABSTRACT
Vocational Education Exemplary and Innovative Projects
1987-88

Title of Project: Home Economics Computer Grant in Independent Living

LEA: Beaufort County School

Project Coordinator: Peggy Elliott

Address: Bath High School
P. O. Box 160
Bath, NC 27808

Telephone No. (919) 923-3251

Project Period: July 1, 1987 - June 16, 1988

No. of Students Benefiting from Grant: 150

No. of Teachers Involved: 10

Organizations or Companies Involved with Project:
Kellogg Company
Learning Seed
Marshware
Microcomputer Educational programs
Muse
Orange Juice Software Systems

Expenditures from Grant Funds: $3,000.

Local Expenditures: 0

Total: $3,000.

Brief Description of Project:
The computer software grant in Home Economics was a search for programmed software on the market that would supplement lesson plans in Independent Living. This software was field tested and a bibliography was given to N.C. Home Economics teachers.

Objectives:
1. To identify 5-10 quality software packages that emphasize one or more goals listed for the Independent Living course in Home Economics. The software identifies should have a dual purpose of classroom and home use and shall be tied to a goal for the program and a competency and objective for the course.
2. To develop lesson plans that include group and individual activities for each soft-ware program selected and to field test and revise the lesson plans as necessary.
3. To determine the usefulness of the software packages for the Independent Living course as well as the home, business or industry.

4. To demonstrate the selected software packages to ten or more Home Economics teachers teaching Independent Living.
5. To have students demonstrate software packages to the appropriate business/industry representative or family member.
6. To submit a bibliography of the software packages, the State Media Evaluation Center Evaluation of each package, a lesson plan for each package, and a list of Home Economics teachers and their schools observing the demonstration.
7. To create an Independent Living course for Bath High School.

Procedures:
With the assistance of students, software was selected by looking through catalogs and software magazines. Each company was personally contacted to inquire about its preview policy. Using the N. C. Media Evaluation form, students and teacher previewed software sent by companies. After teacher and individual student evaluation was completed, software was tested in a classroom setting. Software that was liked by the majority was selected and lesson plans were written. Lesson plans were incorporated with the N. C. Competencies for Home Economics in Independent Living. A bibliography was written and given to teachers in Region 1 and also given out at the N. C. Vocational Summer Conference. At the Summer Conference, a mini-session was taught on Software in Home Economics. Ninety-six teachers showed interest in this Software information and attended.

Products:
To better organize software with N. C. Competencies in Home Economics, I organized a notebook using vinyl cover sheets and pockets to store the computer software and lesson plans along with the objectives they met. Also, color coding with tabs was used so that students and teachers would be able to quickly select or put away software materials.

General Evaluation:
This was a very worthwhile project that could lead to enhance curriculum materials supplied to N. C. Home Economics Teachers. All people that were involved in the project have developed an interest in researching software for more areas of need in Home Economics.

ABSTRACT
Vocational Education Exemplary and Innovative Projects
1987-88

Title of Project: Software for Home Economics Courses

LEA: Reidsville City Schools

Project Coordinator: Barbara Collins

Address: Reidsville Junior High School
1903 South Park Drive
Reidsville, NC 27320

Telephone No. (919) 342-4201

Project Period: 1987-88 School Year

No. of Students Benefiting from Grant: 141

No. of Teachers Involved: 1

Organizations or Companies Involved with Project: None

Expenditures from Grant Funds:	$3,000.00
Local Expenditures:	168.28
Total:	$3,168.28

Brief Description of Project:
Software that would supplement lesson plans in Teen Living was identified and field tested. Workshops were also conducted.

Objectives:
1. To identify 5-10 quality software packages to be used in the Teen Living Home Economics curriculum.
2. To develop a lesson plan for each identified software package. The Teen Living competency and objective that the software teaches will be identified.
3. To select software packages that may be used in the classroom, business and industry or homes.
4. To conduct a workshop to train Home Economics teachers to incorporate the software packages into the Teen Living curriculum.

Procedures:

1. The Home Economics teacher, with the assistance of the Reidsville City Schools computer coordinator, identified software packages to be ordered for preview.
2. Software packages were previewed and the decision was made that the software was appropriate for a competency or that the software should be returned to the vendor.
3. Lesson plans were developed for each software package identified as appropriate for a Teen Living competency.
4. The State Media Evaluation Services form for evaluating software was completed on each software package.
5. Students were given the opportunity to use the software packages in their Teen Living class.
6. A workshop was scheduled for all Home Economics teachers in Region 5. The "hands-on" workshop provided the teachers the opportunity to preview each software package. Each attendee received a software bibliography and lesson plans for the software packages.
7. In completing the project, more than 120 hours of extended contract time were devoted to the Teen Living Software Project.

Products:

1. Bibliography of Teen Living software - list and description of 17 software packages suitable for Teen Living.
2. List of software previewed and returned to vendors as not compatible with Teen Living competencies.
3. Nine lesson plans for using selected software packages.
4. State Media Evaluation services forms completed on all software previewed.

General Evaluation:

The software for Teen Living project was a worthwhile project that resulted in the development of useful information on software for the Teen Living curriculum. As a result of the project, the Home Economics teacher has mastered the usage of the computer as an instructional tool and has increased the amount of the computer usage in her classroom. She has also become very capable in the selection and evaluation of software packages for mastery of competencies in the Home Economics curriculum.

ABSTRACT
Vocational Education Exemplary and Innovative Projects
1987-88

Title of Project: Software for Middle School Home Economics

LEA: Wake County

Project Coordinator: Gale Cooke/ Abby Kurtz

Address: P. O. Box 28041
Raleigh, NC 27611

Telephone No. (919) 790-2552

Project Period: July 1, 1987 - June 30, 1988

No. of Students Benefiting from Grant: 0

No. of Teachers Involved: 51

Organizations or Companies Involved with Project: None

Expenditures from Grant Funds:	$2,799.
Local Expenditures:	0
Total:	$2,799.

Brief Description of Project:
This project developed a list of computer software programs for use in Exploring Home Economics. Software was identified to enrich the curriculum of this course.

Objectives:
1. To identify microcomputer software appropriate for the Home Economics middle school program (Exploring Home Economics).
2. To develop instructional lesson plans for use with each software package.
3. To in-service teachers and students on use of the software packages.

Procedures:

1. Secured and reviewed several software programs for use in the Exploring Home Economics course.
2. Developed lesson plans for the selected software to be used with the Exploring Home Economics curriculum.
3. Presented findings at Vocational Education Summer Workshop to Home Economics teachers.
4. In-serviced all local Home Economics teachers on how to integrate these materials into the curriculum.

Products:

A list of computer software recommended for use with the Exploring Home Economics curriculum as well as several lesson plans illustrating use of the software programs in the course.

General Evaluation:

The project was successful because the five selected software packages were compatible with the curriculum. The lesson plans were developed and implemented and a workshop was held to in-service the local Home Economics teachers on the use of the materials in their classrooms.

ABSTRACT
Vocational Education Exemplary and Innovative Projects
1987-88

Title of Project: Software Evaluation & Application for Home Furnishings & Housing

LEA: Wake County

Project Coordinator: Joyce Courville/ Abby Kurtz

Address: P. O. Box 28041
Raleigh, NC 27611

Telephone No. (919) 790-2552

Project Period: July 1, 1987 - June 30, 1988

No. of Students Benefiting from Grant: 100

No. of Teachers Involved: 51

Organizations or Companies Involved with Project: None

Expenditures from Grant Funds:	$2,788.
Local Expenditures:	200.
Total:	$2,988.

Brief Description of Project:
This project developed a list of computer software programs for use in the Home Furnishings & Housing course. Software was identified to enrich the curriculum of this course.

Objectives:
1. To provide an annotated review of home furnishings & housing software availability and its use in the classroom and home environment.
2. To include a table showing: the various courses in which housing & home furnishings is taught, the objectives which may be met by use of the software package, and the instructional technique it will provide.
3. To provide one tested lesson plan for each course in which the software package can be used.

Procedures:

1. The coordinator reviewed eight software packages for home furnishings & housing and developed a software table with accompanying lesson plans as well as an annotated software review.
2. The home economics teachers were in-serviced as a way to disseminate the curricula materials.
3. The coordinator presented the results of the project at Vocational Education Summer Workshop.

Products:

An annotated review of the software and one tested lesson plan for each course (home furnishings & housing) as well as a Home Furnishings & Housing Software Table.

General Evaluation:

Microcomputer software appropriate for the Home Furnishings & Housing course was identified as well as the development of lesson plans and a software table. Through classroom activities and an in-service program, both teachers and students received training on the use of the identified software packages.

Job Opportunities
Convention for Seniors

Many local and state-wide employers need full-time permanent employees each year to staff their businesses. Providing a climate where employers from various occupational areas can meet and interview selected graduating seniors for on-site hiring benefits both employers and students from the standpoint of time and money.

ABSTRACT
Vocational Education Exemplary and Innovative Projects
1987-88

Title of Project: Job Convention for Seniors

LEA: Durham City Schools

Project Coordinator: Dr. Lon O. Pierce

Address: P. O. Box 2246
Durham, NC 27702

Telephone No. (919) 688-2361

Project Period: September 1987 - June 1988

No. of Students Benefiting from Grant: 125

No. of Teachers Involved: 31

Organizations or Companies Involved with Project: 42

Expenditures from Grant Funds:	$2066.05
Local Expenditures:	906.30
Total:	$2972.35

Brief Description of Project:
This project provided support for development and implementation of a job opportunities convention where eligible vocational students could meet with potential employers. This convention which was held at the Durham Hilton on May 11, 1988, was the culmination of several months of planning. An advisory council composed of representatives of selected businesses in Durham assisted in the planning of the event. Students received employability skills training and developed resumes. The resumes were compiled into a book given to the employers prior to the convention. A survey of participating employers and students indicated that the convention was a success. The event saved time and money for both employers and students by meeting at a common site to discuss job opportunities. As a result of this project, several students were offered entry level jobs.

Objectives:
1. To provide students an opportunity to go through the interview, job search process and obtain experience and/or full-time employment.
2. To provide an opportunity for local and regional employers to interview and hire graduating seniors.

Procedures:
An advisory council planning meeting was held in November. Some of the factors discussed were: the details of the Job Convention for Seniors, schedules, surveys, location, invitations and other essentials. In December, a survey of local and regional employers was taken to determine which employers would participate in the convention activity for seniors. A letter of confirmation was sent to participating businesses. We also surveyed senior students in the high school to identify which individuals desired involvement in the convention activity. Employability skills workshops were held. Participating seniors were required to attend an employability skills workshop. The workshop helped seniors identify career goals, develop resumes, and improve interviewing techniques.

A roster of participating businesses was dissemininated to the students. Students selected businesses to have interview, based on their career goals. Appointments were scheduled for students to meet with representatives of chosen businesses. The Durham Hilton was selected as the convention site. Plans were finalized and contracts signed for the event that was held on May 11, 1988.

A book of resumes was developed and given to employers. At the conclusion of the interviews, employers were invited to have lunch. A letter of appreciation was sent to each participating employer thanking them for their support of our Job Placement Convention for Seniors.

Products:
1. Book of Resumes
2. Roster of Participating Businesses
3. Employer Evaluation Form
4. Student Evaluation Form
5. Calendar of Events

General Evaluation:
Evaluation surveys were sent to participating businesses and students. The responses from both employers and students were very positive. Both groups liked the facilities where the event was held. The employers indicated that the Book of Resumes had been very useful. The students indicated that they were able to see the employers that they wanted to see. Overall, the event was rated as highly successful by both students and employers.

Comments:
The project allowed vocational students the opportunity to go through the job search and interview process in order to obtain full time employment. Local employers were able to save time and money through this process by meeting with interested students at one location. Students received employability skills training and resumes, which will be useful as they enter the "world of work" after high school. The Job Opportunities Convention increased the student's ability to make a successful transition from school to the world of work.

ABSTRACT
Vocational Education Exemplary and Innovative Projects
1987-88

Title of Project: Job Opportunities Convention for Seniors

LEA: Randolph County/Asheboro City Project Coordinator: Darrell H. Hill

Address: 2222-C South Fayetteville Street Telephone No. (919) 629-2131
Asheboro, NC 27603

Project Period: September 1, 1987 - June 30, 1988

No. of Students Benefiting from Grant: 162

No. of Teachers Involved: 57

Organizations or Companies Involved with Project: 58

Expenditures from Grant Funds:	$5,831.99
Local Expenditures:	279.50
Total:	$6,111.49

Brief Description of Project:
Asheboro City and Randolph County provided a job opportunities convention to students seeking full time employment and employers seeking employees. Businesses were given student resumes and had an opportunity to talk to propective workers.

Objectives:
1. To create for industry a student resume book.
2. To enable students to experience the interviewing process.
3. To help students find placement with a company.

Procedures:
Wednesday, May 4, 1988 marked the first ever Jobs Convention for Seniors in Randolph County and Asheboro City Schools. One hundred sixty-two students from the two systems attended the event held at the National Guard Armory. Schools came in on a rotating basis and spent forty-five minutes with area employers. The event began at eight o'clock in the morning and ended with a luncheon for employers and guests at one o'clock in the afternoon.

From the very beginning, vocational teachers were included in the process. They worked with students on their resumes, held classes on interviewing techniques, and selected teachers accompanied the students to the Armory. In all, fifty-seven vocational teachers were involved in the project.

This project was a joint venture between Randolph County Schools and Asheboro City Schools. Both systems share the same Vocational Education Advisory Council and work well together. Certain tasks such as being fiscal agent, and doing a large part of the typing and mailing were handled by the Randolph County Vocational Secretary.

The impact on the community has been very positive. Many employers have requested the activity be made an annual affair. The Economic Development Corporation, Small Business Administration, and Chambers of Commerce have all spoken favorably of the Jobs Convention. Employers have also let it be known they made actual job offers to students that day. Many others took applications and have called students back for in-depth interviews.

As noted earlier, this project took a great deal of work by several individuals. Both Directors of Vocational Education and their office personnel were greatly involved. All five Industry Education Coordinators participated and took lead roles at their individual schools. Cooperative Education teachers also assisted a great deal.

General Evaluation:
Positive responses from students and teachers.

Comments:
Very worthwhile project, although time-consuming. I wish more students would have participated, but our overall county unemployment is only 2.2% and many students had found their own jobs.

ABSTRACT
Vocational Education Exemplary and Innovative Projects
1987-88

Title of Project: Job Opportunities Convention for Seniors

LEA: Sampson County Schools

Project Coordinator: Charlotte Murphy
Freddie Williamson

Address: P. O. Box 439
Clinton, NC 28328

Telephone No. (919) 592-1401

Project Period: July 1, 1987 - June 30, 1988

No. of Students Benefiting from Grant: 187

No. of Teachers Involved: 14

Organizations or Companies Involved with Project: 53

Expenditures from Grant Funds:	$10,000
Local Expenditures:	500
Total:	$10,500

Brief Description of Project:
High School seniors and other participants enrolled in skills training programs were able to fill out applications, present resumes, and obtain information on post-secondary placement opportunities. Job Opportunities Convention at the Sampson-Clinton Agri-Civic Center.

Objectives:
1. To create a student resume book for industry.
2. To enable students to go through the interviewing process.
3. To help students find placement with a company.

Products:
1. Resume Book
2. Job Opportunities pamphlets
3. Appreciation Certificates
4. Interviewing booths

General Evaluation:
Employer Comments:
"Students were very prepared - professional attitudes."
"Excellent opportunity for any business to participate in."
"Very impressed with attitudes, dress and interest in career opportunities by all students interviewed."
"It's an excellent opportunity to acquaint students with industries in this area."
"Convention was well planned and organized. Excellent people involved; outstanding opportunity for these young people."
"You will be hard pressed next year to improve."
"Great experience for youth and employers."
"Very helpful to our young people and to us as employers as well."
"This is an excellent idea. I wish _____ county would/could emulate this convention."
"I feel that this is a very worthwhile project and one that I really enjoyed participating in."
"This certainly prepares the student for the real world environment."
"You are to be commended for putting together the best program I have been involved in for many years."

Comments:
There is no question that Job Opportunities Day is a benefit to both students and employers. This is an excellent opportunity for students without experience to gain first-hand knowledge of job seeking skills needed to obtain a job. It allows vocational students to gain that "competitive edge" that sets them apart from their peers.

Youth and Careers: A Seminar for Parents

Young people have been saying for more than a decade that their career planning needs are not being met, that they want more help choosing careers. A study done in the 1970s by American College Testing (ACT) supports this saying. Seventy-eight percent of the eleventh graders surveyed said they wanted more help making career plans.

Parents, too, are concerned about their children's careers. Every year the Gallup Poll organization conducts a national survey of what parents think of the public schools. A checklist of problems with young people was given to a national sample of parents by the Gallup pollsters. According to their report, parents whose oldest child was 13 to 20 years old identified their concerns in order of priority as: 1) how to deal with the drug problem and 2) how to help their children choose a career.

ABSTRACT
Vocational Education Exemplary and Innovative Projects
1987-88

Title of Project: Youth and Careers: A Seminar for Parents

LEA: Durham County Schools

Project Coordinator: Doris Walker

Address: C. E. Jordan High School
6806 Garrett Road
Durham, NC 27707

Telephone No. (919) 493-1581

Project Period: July 1, 1987 - June 30, 1988

No. of Students Benefiting from Grant: 200

No. of Teachers Involved: 3

Organizations or Companies Involved with Project: 0

Expenditures from Grant Funds:	$10,000.
Local Expenditures:	2,853.
Total:	$12,853.

Brief Description of Project:
The purpose of this project was to provide parents with information and methods of assisting their sons and daughters with making wise career choices. This was accomplished by having four consecutive weekly work sessions of two and one half hours each for parents of tenth and eleventh grade students.

Objectives:
To enable parents to:
1. Become aware of the developmental process of career selection and decision making.
2. Recognize abilities, values, interests of their children.
3. Understand the influence parents have on their child's career selection.
4. Locate and use information on the military, college selection, financial costs and aid.
5. Know the career time table of the secondary school and post secondary school years.
6. Use interactive computer programs, books, interest inventories, and various other materials in researching careers, training opportunities, and schooling choices for their children.

Procedures:
1. An advisory committee of parents, teachers, and counselors was used to gain guidance.
2. Parents were notified by mailed letter of the seminar.
3. Four sessions of two and one half hours each were presented in the school media center.
4. A written evaluation was used and the information from it was processed.

Products:
1. A parent invitation letter and registration form.
2. Parents' needs assessment for the seminar.
3. Listing and critique of books in local bookstores.
4. Overhead transparencies and work sheet.
5. Folder of parent information.
6. Parent evaluation form.

General Evaluation:
This project was determined to be a success based on the parents evaluation. On a four-part scale, 76% rated it at the highest level and 14% rated on the second highest scale. In addition, several parents have maintained contact with the coordinator and have also referred their children to the media center to use available materials. The following quotes are from the evaluation:
"The workshop was well planned and executed."
"Three cheers to grant money for making these sessions possible. Should be repeated as often as possible."

Comments:
I found this an inspiring project. I hope to offer this program in the future as part of our evening school program. I am now, as a result of parent input, working on developing an exemplary Career Resource Center that will use a full time parent volunteer staff to help serve the 1,750 students and their parents.

ABSTRACT
Vocational Education Exemplary and Innovative Projects
1987-88

Title of Project: Youth and Careers: A Seminar for Parents

LEA: Nash County

Project Coordinator: Leona Landen

Address: 930 Eastern Avenue
Nashville, NC 27856

Telephone No. (919) 459-7021

Project Period: July 1, 1987-June 30, 1988

No. of Students Benefiting from Grant: 50

No. of Teachers Involved: 4

Organizations or Companies Involved with Project:
Nash County Vocational Education Program
Fast Food Merchandisers
Carolina Telephone and Telegraph Co.
Abbotts Laboratories

Expenditures from Grant Funds: $7,149.77

Local Expenditures: -0-

Total: $7,149.77

Brief Description of Project:
The parents seminar was an eight-hour program scheduled in two, 4-hour sessions. The seminar focused on how parents could assist their children in the career decision-making process. A combination of strategies were used.

Objectives:
1. To inform parents of our changing society.
2. To inform parents of the labor force trends that affect today's and future career opportunities.
3. To identify career preparation options.
4. To recognize the parents role and influence in the child's career choice.
5. To identify business opportunities in the area.

Procedures:
A survey was conducted to determine the interest in a career seminar for parents. The survey proved that a definite interest existed. As a result, the seminar was held in two settings, each four hours in length. Dates of the seminar were based on the survey.

The seminar combined presentation by the leaders with an illustrated filmstrip, group discussions, special handouts, and a workbook for parents to use with their children. Parents were given a copy of **How to Help Your Child Choose A Career,** notebook, and seminar folder with special handouts (one per family).

General Evaluation:
The seminar proved to be a great success to the parents who participated. They were very appreciative for the information given and as a result felt better prepared to assist their children in career decision-making and course selections for high school.

Comments:
I feel a great need for the continuation of this seminar in our school system. I would like to see the project funded on an annual basis.

ABSTRACT
Vocational Education Exemplary and Innovative Projects
1987-88

Title of Project: "Today's Youth/Tomorrow's Careers (A Seminar For Parents)"

LEA: Sampson County

Project Coordinator: Lou Anna Herring

Address: Hobbton High School
Route 2, Box 153
Newton Grove, NC 28366

Telephone No. (919) 594-0242

Project Period: June 1, 1987 - July 7, 1988

No. of Students Benefiting from Grant: 30 Parents: 40

No. of Teachers Involved: 13

Organizations or Companies Involved with Project:
Hobbton School District

Expenditures from Grant Funds:	$9500
Local Expenditures:	- 0 -
Total:	$9500

Brief Description of Project:
"Today's Youth and Tomorrow's Careers" is an award winning seminar designed to help parents help their sons and daughters choose careers. The seminar is for parents of high school age young people who wish to learn how to be better career advisors.

Objectives:
1. To present parents of students in grades 7-12 in the Hobbton school district with information about the relationship of the changing society and the future employment opportunities of their sons and daughters.
2. To identify career preparation options - college, vocational preparation, apprenticeships, on-the-job training, etc. that will assist parents in providing realistic career guidance to their sons and daughters.
3. To assist parents in identifying and demonstrating the use of career planning and career exploration resources.

Procedures:
1. Seventy-five parents were registered for seminar
2. A flyer was prepared
3. Ad run in newspaper
4. Three sessions were offered.

General Evaluation:
Parents were given valuable occupational information to use as an aid in helping their children choose a career. They were made aware of various resources at the schools such as Occupational Outlook Handbooks and various vocational assessment instruments. Information regarding planning for education/training options was also available to them.

Comments of Parents:
* Seminar needs to be held on an annual basis.
* Students should be required to attend.
* Seminar was well organized and interesting.
* Occupational Outlook Handbook was a valuable source of information.
* Information received was informative and will be helpful in the career decision-making process.

Comments:
Excellent opportunity for parents to become involved in the career decision as well as career advisor process.

Tourism Marketing Curriculum Refinement

In 1985, over 50,000,000 out-of-state visitors traveled in North Carolina, spending 3.3 billion dollars. An additional 1.3 billion dollars were spent by North Carolinians who traveled within the state. Tourism expenditures are growing at a rate of 10%+ per year. Tourism is North Carolina's second largest seasonal employer. Many of the retail and service businesses in parts of our state are highly dependent on tourists. Proper preparation of graduates for sales and service jobs affected by tourism requires increased emphasis.

ABSTRACT
Vocational Education Exemplary and Innovative Projects
1987-88

Title of Project: Tourism Marketing Curriculum Refinement

LEA: New Bern-Craven County

Project Coordinator: Phyllis H. Kent

Address: 1207 Longview Drive
New Bern, NC 28560

Telephone No. (919) 637-2626

Project Period: July 1, 1987 - June 16, 1988

No. of Students Benefiting from Grant: 50

No. of Teachers Involved: 1

Organizations or Companies Involved with Project:
- New Bern Area Chamber of Commerce
- Tourism Development Authority
- Tryon Palace Commission
- Globe Travel Agency
- New Bern Visitor and Information Center
- Swiss Bear Commission
- Local Impacted Merchants

Expenditures from Grant Funds:	$14,540.33
Local Expenditures:	-0-
Total:	$14,540.33

Brief Description of Project:
The project included group and individual assignments that would make Marketing students aware and knowledgeable of marketing skills and competencies necessary for a career in tourism.

Objectives:
1. To explore tourism as a career objective.
2. To make students aware and knowledgeable of marketing skills and competencies necessary for a career in tourism.
3. To identify the various job opportunities in the New Bern-Craven County area.
4. To develop projects that would promote tourism in New Bern-Craven County.

Procedures:
Fifty students in Marketing Education I participated in the Tourism Marketing Project. The students were made aware that many agencies in Craven County are connected with the tourism industry. The students studied Tourism in the areas of importance, social structure, characteristics of tourists, careers in tourism, tourism vocabulary, and tourism attractions in Craven County. The students were divided into groups and assigned projects that would be used by tourists while they are in Craven County.

Products:
Lodging Facility Survey - A lodging facility survey was developed to determine lodging facilities available in Craven County.
The following Guides were developed, printed, and distributed to the New Bern Area Chamber of Commerce:

A Guide to Area Dining
A Fast Food Restaurants Guide
A Lodging Facilities Guide

General Evaluation:
The overall project was interesting and informative for the students but it should be for two or more years. Many of the materials ordered were not available when they were needed.

Comments:
I would consider it to be a good unit to add to all the programs located near tourist attractions.

ABSTRACT
Vocational Education Exemplary and Innovative Projects
1987-88

Title of Project: Tourism Marketing Curriculum Refinement
Travel and Tourism - The Study of Travel and Tourism and Its Effects on Halifax County

LEA: Roanoke Rapids Graded Schools
Project Coordinator: Roma B. Taylor

Address: 800 Hamilton Street
Roanoke Rapids High School
Roanoke Rapids, NC 27870
Telephone No. 919-537-3396

Project Period: July 1, 1987 to June 30, 1988

No. of Students Benefiting from Grant: 65

No. of Teachers Involved: 2

Organizations or Companies Involved with Project:
Roanoke Valley Area Chamber of Commerce
The Halifax County Tourism Development Authority
Roanoke Rapids Merchants Association
Area business people (Weldon, Roanoke Rapids, Halifax, Gaston)
Halifax Historical Society - Historic Halifax

Expenditures from Grant Funds:	$9,109.33
Local Expenditures:	-0-
Total:	$9,109.33

Brief Description of Project:
This project was a study of travel and tourism, its impact and importance on our economy, and job and career opportunities in our community. The study was to give us ideas on how to increase travel and tourism in Halifax County by determining what travelers and tourists want and look for when they are making a stop. We also studied the different tourism attractions in Halifax County. Tourists were surveyed and asked what factors influenced them when deciding where to stop.

Objectives:
1. To have students do marketing research.
2. To have students identify career opportunities in the field of tourism.
3. To have students identify tourist attractions in Halifax County and surrounding areas.
4. To understand the importance and impact of travel and tourism to the economy.
5. To solicit suggestions from travelers to help increase tourism.
6. To make recommendations based on our findings.
7. To present our findings and recommendations to the Chamber of Commerce Tourism Committee and other appropriate leaders.

Procedures:
When the State Department of Public Instruction notified us that we had been awarded a grant, we knew that we had much hard work before us. We realized also that we had an outstanding opportunity to study tourism in our community and to turn this grant into benefits for our community as well as ourselves.

The first step in our project was to have all DECA members meet and choose a chairperson. The chairperson and DECA advisors met with Joe Hagan, the Executive Director of the Roanoke Valley Area Chamber of Commerce, to discuss our ideas about the project that we wanted to conduct.

Mr. Hagan was very receptive to our ideas and invited us to meet with the Roanoke Valley Chamber of Commerce Tourism Committee. We met with this committee and discussed questions that they would like to have answered when we did our primary research. Roanoke Rapids DECA members felt that our most valuable information would come from our primary research, but we felt that it was very important to use that information which was already available to us. Thus, we began our secondary research which gave background information on how similar projects had been done, how to do marketing research, information about travel and tourism in North Carolina and Halifax County, and information on specific tourist attractions. Our primary research was obtained by tourist, business, and student surveys. The steps that were followed in the primary research were:
1. Designed the Survey Instrument(s)
2. Administered the Study
3. Tabulated the Results
4. Interpreting and writing of survey results
5. Conclusions and recommendations from this study

Products:
Creative Marketing Project (Top Ten DECA National Competition).
Curriculum written for a unit in the Marketing Class.
Workshops held by the Chamber of Commerce for area businesses: (1) "The Spirit of Hospitality" and (2) "Handling the Tourist Trade: Keep Them Coming Back".

General Evaluation:
All of the students, teachers, and Chamber of Commerce members involved felt that this was a very worthwhile project. The students benefited because of the marketing research they were able to do in their own community and they saw how this information could help their community. The students also enjoyed the contact they had with tourists, chamber members, and other local businesspeople. The money ($2,500) they received from the Chamber of Commerce for their research was a welcomed gift, but certainly unexpected. The Chamber of Commerce said this information was better than most they received from Marketing Research Companies and have used this information to try to improve Travel and Tourism in Halifax County.

Marketing Education Classrooms in Shopping Centers

Retailing is currently the second largest employer in North Carolina. Many cities have large shopping malls with service strip centers located nearby. Students from several schools may be more effectively served from one location with one teacher coordinator perceived as the center's main trainer. The image of the Marketing Education program can be enhanced through the employers being a greater part of the classroom instruction in Marketing Education. The shopping mall can improve its productivity through more focused instruction.

ABSTRACT
Vocational Education Exemplary and Innovative Projects
1987-88

Title of Project: Marketing Education Classroom in Shopping Center

LEA: Rowan County Schools

Project Coordinator: Glenn T. Eagle

Address: Marketing Education Classroom
Salisbury Mall
1935 Jake Alexander Blvd., West
Salisbury, NC 28144

Telephone No. (704) 636-9322

Project Period: July 1, 1987 - June 30, 1988

No. of Students Benefiting from Grant: 22

No. of Teachers Involved: 1

Organizations or Companies Involved with Project:

Rowan County Schools
Barnett Enterprise
Salisbury Mall Inc.
Chick-fil-A
Katharine's Hallmark
Circus World
Cato Plus
Roses
Stuarts
J. C. Penney Co.
Wooten's Jewelry
Rave
Eckerds
Belks
Gateway Books

Expenditures from Grant Funds: $35,000.00

Local Expenditures: 11,350.00

Total: $46,350.00

Brief Description of Project:
To establish a training room/classroom in a retail shopping center.

Objectives:
1. To utilize the business community as a teaching resource.
2. To utilize up-to-date malls as a learning lab for Marketing Education students.
3. To develop sound community relations between business and the mall program.
4. To become the source for business community to use in hiring part-time workers.

Procedures:
A visit was made to an existing program to gather information. A student survey was administered at the high schools to identify potential students. A working relationship was established with the mall personnel and stores before the program officially started. An Advisory Board was established to ensure business leaders input and a sound public relationship with the mall stores. The Advisory Board evaluated the program as very successful in its first year. No formal evaluation was done but the acceptance of part-time workers, enthusiasm at the DECA District Competitive Events Conference by the mall community, and the Advisory Board's informal evaluation demonstrated the success of the program.

Products:
Brochure on the Mall Marketing Program.

General Evaluation:
The acceptance by the merchants in the Salisbury Mall has been a key reason that the program has been successful. The Advisory Board, with its informal evaluation throughout the year and input, has also ensured success of the program. A greater awareness in the high school and an acceptance by the Marketing Education teachers in the system has been a positive influence in the success of the program. The utilization of the mall stores as a Learning Lab and the increased number of contracts from the merchants for part-time workers also demonstrate the success of the program.

J. C. Penney Company donated two pieces of equipment and Hallmark loaned equipment and training videos to the Marketing Education classroom.

The Salisbury Mall DECA Chapter's success with all students as members, a district officer, eight trophy winners, many certificate winners, Roses Chapter Three Star Award, a state runner-up, and three students attending National DECA Career Development Conference certainly demonstrated the success of the mall DECA Program.

Comments:
The program is in the growing stages. We experienced transportation problems in recruiting for our second year but were successful in having students from all of the high schools. The program will be hosting the Marketing Competitive Events Conference for the second year. The MCEC was evaluated by the teachers and mall merchants as being very successful last year.

Future plans include the local Community College teaching a course here for adults in the winter quarter. It is also planned to add Entrepreneurship/Small Business in our third year with an ultimate goal of operating a business or at least operating a business during the Christmas Holidays.

We are also in the process of developing a game called "Salisbury" with the Monopoly game concept. We assisted the mall with a survey, Santa project, and other small projects during our first year.

I believe that the greatest measurement of success in our first year was our students. They accepted the responsibility of the adult environment as adults. The students benefited from the environment, the learning experiences, and responsibility of being adults.

"Innovative Technology Education Certified Programs"

Industrial Arts/Technology Education programs in North Carolina are evolving to keep pace with our rapidly changing society that is brought about as a result of technological innovations. Therefore, traditional industrial arts programs must change their focus from the typical project to a more dynamic emphasis of the technologies that are impacting society. In order to facilitate overall change in traditional industrial arts programs, exemplary pilot programs were established to serve as models where other industrial arts/technology education teachers could model their programs and move toward a technology based program.

ABSTRACT
Vocational Education Exemplary and Innovative Projects
1987-88

Title of Project: Advanced Technology for Industrial Arts

LEA: Ashe County

Project Coordinator: Bob Calhoun

Address: Ashe County Career Center
P. O. Box 450
West Jefferson, NC 28694

Telephone No. (919) 246-2112

Project Period: July 1, 1987 - June 30, 1988

No. of Students Benefiting from Grant: 45

No. of Teachers Involved: 1

Organizations or Companies Involved with Project:
Appalachian State University
Wilkes Community College
Skyline Telephone Co.
Sprague Electric Co.
Selected Elementary Schools in Ashe County

Expenditures from Grant Funds:	$17,000.
Local Expenditures:	-0-
Total:	$17,000.

Brief Description of Project:
The primary purpose of this project was to make students more aware of the technologies available relative to CAD, robotics, and laser technology as applied to the modern work enviroment through communications.

Objectives:
1. To establish six organized sets of concepts, processes, and systems that are uniquely technological.
2. To design instructional activities drawn from the following six content areas of industrial arts/technology education.
3. To develop an activity oriented laboratory instruction with students reinforcing abstract concepts with concrete experience.
4. To develop a professional quality video cassette presentation of the instructional sequence.
5. To design activity modules to assist other teachers in estalishing industrial arts/technology programs.
6. To develop an awareness and utilization of the CAD system.
7. To explore the area of robotics and its application to the work place.
8. To create an awareness in students of the laser and its applications.

Procedures:

1. Surveyed Industrial Arts/Technology Education teachers.
2. Selected content choice and prioritize all content areas.
3. Surveyed textbooks to determine appropriate activities.
4. Produced a video cassette recording of the training program.
5. Informed all individuals and groups about the project.
6. Developed a program that will augment the elementary schools' program.
7. Established support committees.
8. Developed workshop activities on national, state and local level.
9. Purchased materials and equipment.

Products:

1. This program will assist in providing directions for all Industrial Arts/ Technology Education across North Carolina.
2. Mr. Calhoun will utilize the "train the trainer concept" to implement technology education in North Carolina.
3. This program will explore and utilize innovative tools, materials, technology resources, equipment, and organization and safety.
4. We developed closer ties between industry and community college personnel.

General Evaluation:

The instructor, assisted by the vocational director, project committees, advisory groups have used: pre/post tests, control groups, follow-ups, and state and local checklists in the evaluative process.
The 1988-89 enrollment in the Industrial Technology program has increased over last school year.

Comments:

The 1987-88 school year has certainly made a great impact upon the Technology Education program at the Ashe County Career Center. With the Innovative Technology Education Program Grant, our students were selected for developing a program in communications.

Our Technology class has been featured in many local newspaper articles and in the Hearlihy Times, a magazine sent to over 40,000 technology teachers. Our students also presented CAD fundamentals to over 60 teachers in a Region 5 workshop. During the past year, we have been visited by technology teachers, vocational directors, assistant superintendents, college instructors, and a president of a college.

The Exemplary Grant allowed our site to be chosen as an AutoCad Teacher Training Center. (AutoCad is the world's largest seller of computer aided design software.) Our grant has also improved our student VSO accomplishments. On the state level, we won twelve trophies and placed first in the Chapter of the Year Competition. On the national level, we had seven finalists and placed second as National AIASA Chapter of the Year. Having such a program in technology education has allowed us the opportunity to receive two additional grants totaling over $13,000.00.

As you can see our total program has greatly improved because of this grant.

ABSTRACT
Vocational Education Exemplary and Innovative Projects
1987-88

Title of Project: Manufacturing Technology

LEA: Clinton City Schools

Project Coordinator: Kathleen Barrows

Address: 1201 West Elizabeth St.
Clinton, NC 28328

Telephone No. (919) 592-2067

Project Period: 1987-88

No. of Students Benefiting from Grant: 85

No. of Teachers Involved: 1

Organizations or Companies Involved with Project:
Carolina Training Associates
Robomart
Clinton High Technology Ed. Advisory Committee

Expenditures from Grant Funds:	$17,000
Local Expenditures:	$7,100
Total:	$24,100

Brief Description of Project:
The project allows us:
1. To review manufacturing curriculum guide and develop innovative technological activities to reinforce the content area.
2. To serve as a model program for other industrial arts/technology education teachers to move toward a technology based program.
3. To aid in implementing the 1988-89 Scope and Sequence of Industrial Arts/Technology Education.

Objectives:
1. To design instructional activities drawn from the manufacturing technology content of industrial arts/technology education.
2. To develop an activity oriented laboratory instructional program for students to reinforce abstract concepts with concrete experiences.
3. To develop a professional quality video cassette presentation of the instructional sequence.
4. To develop prototypical activity modules to assist other teachers in establishing a manufacturing technology program in technology education.

Procedures:
The project was evaluated in terms of meeting the specific objectives. Evaluation included the students ability to perform in new learning environments, performance in the lab as indicated in student involvement, and by request for courses in 1988-89. The program was also evaluated by its visibility, the Board of Education, PTSA, Chamber of Commerce, Vocational Advisory Committee, and Technology Education Advisory Committee. The students involved in this program were instrumental in introducing the new technologies to the industrial arts/technology education teachers in Region II. Evaluation of the project objectives was met.

Products:
Student activity packets
Professional quality video cassette presentation of the instructional sequence for dissemination to other teachers.

General Evaluation:
The grant allowed Clinton High School students to develop insight into new and emerging technologies they otherwise would not have had the opportunity to see and experience first hand. It has provided a center for teachers in Region II and other areas to have access to these technologies.

The students involved in this program were provided the opportunity to develop leadership skills by presenting the knowledge and skills they gained to other subject areas at the high school and to teacher groups from across the state, as well as community and civic organizations.

Comments:
It is extremely hard to "keep up" in this age of information. The technologies are advancing at such a pace that the schools are years behind. The grant made available to the students at Clinton High a bridge to gap this ocean, and at the very least, it has given them advantages the majority of students in this state will not have.

ABSTRACT
Vocational Education Exemplary and Innovative Projects
1987-88

Title of Project: Exploring Technology

LEA: Forsyth County

Project Coordinator: Erien Booker

Address: 410 Haverhill Street
Winston-Salem, NC 27127

Telephone No. (919) 784-0420

Project Period: 1988-89

No. of Students Benefiting from Grant: 102

No. of Teachers Involved: 1

Organizations or Companies Involved with Project:
Owens Illinois Recycling Glass Co.
RJ Reynolds
Local Businesses
AIASA
TA/TE Educators

Expenditures from Grant Funds:	$10,150
Local Expenditures:	-0-
Total:	$10,150

Brief Description of Project:
Exploring Technology is an introductory course which provides opportunities for students to develop practical life skills and develop an awareness of industry and technology that has advanced our society. The skills developed are problem-solving; career orientation; designing and production of projects and activities using tools, machines, materials and processes.

Objectives:
1. To increase an interest and awareness in the community about the Exploring Technology curriculum.
2. To develop activities which will enhance and be applicable to the Exploring Technology curriculum.
3. To develop a unit of concepts, processes and activities that demonstrates the technology aspects of industries.
4. To establish a training program to assist other Industrial Arts/Technology Education instructors.
5. To develop an instructional curriculum which explores industrial technologies and assists individuals in identifying their interest, abilities, values and needs.

Procedures:
Introduction to the course and outline of activities.
Demonstration of the various areas and activities in each area.
Group division of each class into various areas.
During multiple activities lab, demonstration and projects prepared in each area.

Evaluation:
1. Student participation in the activities in the lab.
2. Student progress as measured through tests, oral feedback and written reports and presentations.
3. Quality of products produced in the program.

Products:
1. Video tape demonstrating the usage of materials and equipment that have been purchased.
2. Updated curriculum guide using new activities and ideas.
3. New arrangements of the laboratory to provide maximum use of the facility for each unit and activities.
4. Improvement of competition in AIASA events at the state and national level.

General Evaluation:
The Exploring Technology course has provided activities and technical area study to the students that were not available before. With the equipment and materials that were purchased, it provided a better learning environment for them. It gave them a chance to experiment with new ideas and create products that help them understand technology and how it plays a part in our industrial society.

Principles of Technology

Technicians in a variety of fields are in high demand, but high school students are often unaware of the technical labor market opportunities. Consequently, many fail to prepare adequately in math and science to enter a technical college. Without a proper foundation in math and science students will have difficulty enrolling in a technical college. One of the purposes of this grant was to make use of the comprehensive assessment and career guidance services available at the local technical college.

ABSTRACT
Vocational Education Exemplary and Innovative Projects
1987-88

Title of Project: Principles of Technology

LEA: Lenoir County Schools

Project Coordinator: Sammy Howard

Address: P. O. Drawer 729
Kinston, NC 28525

Telephone No. (919) 523-8071

Project Period: August 17, 1987 to June 16, 1988

No. of Students Benefiting from Grant: 20

No. of Teachers Involved: 1

Organizations or Companies Involved with Project:
Curtis Mathis Home Enter. Ctr.
Roberk
The West Co.
H & N Mfg. Co.
Wall Lenk Corp.
Barnet Southern
The Field Controls Co.
Allied Security Forces

Expenditures from Grant Funds:	$7,299.30
Local Expenditures:	-0-
Total:	$7,299.30

Brief Description of Project:
This project helped us to acquire materials, supplies and equipment necessary for implementing basic course work in the Principles of Technology Level II program and to articulate that program with the technical training and career guidance programs at the area post-secondary schools.

Objectives:
1. To emphasize fundamental coursework in the Principles of Technology Level II program.
2. To coordinate the high school career counseling program and the comprehensive assessment and career guidance services of our local and community college.
3. To provide the students with awareness of careers in technical fields.
4. To provide a smooth transition from the high school program to the post high school technical training.

Procedures:

1. Purchased necessary materials and equipment for implementing Principles of Technology Level II.
2. Organized committee of key personnel to articulate the high school Principles of Technology Level II program with technical programs and career guidance activities at the local community college.
3. Secured resource persons from the community college and local industries to speak to the Principles of Technology Level II students.
4. Organized field trips for Principles of Technology Level II students to the community college and designated local industries.
5. Provided an opportunity for Principles of Technology Level II students to meet with a career counselor at the community college.
6. Provided "shadowing" experiences in local industry.

General Evaluation:

1. An evaluation form was developed for students to complete during the last six weeks of the high school program.
2. Committee reviewed objectives and outcomes of the program.

ABSTRACT
Vocational Education Exemplary and Innovative Projects
1987-88

Title of Project: Principles of Technology

LEA: Northampton

Project Coordinator: Linda Robbins

Address: P. O. Box 158
Jackson, NC 27845

Telephone No. (919) 534-1371

Project Period: 1987-88

No. of Students Benefiting from Grant: 61

No. of Teachers Involved: 1

Organizations or Companies Involved with Project:
Halifax Community College

Expenditures from Grant Funds:	$6,950.
Local Expenditures:	-0-
Total:	$6,950.

Brief Description of Project:
The project was established to assist LEA's in purchasing equipment and to assist in the coordination of a transition system between the local community college and the high school.

Objectives:
1. To plan, develop and coordinate career counseling and assessment between Halifax Community College and Northampton County High School-East.
2. To provide students with an awareness in technical fields.
3. To furnish current lab with recommended supplier, materials and equipment needed for a Level II program.

Procedures:
Students were provided tours of local industry and community college facilities. In addition the value and opportunity of a transition between high school to community college was discussed with incoming 10th graders and current seniors. The majority of the money was used for purchase of as much Level II equipment as possible.

Products:
Principles of Technology is recognized as a viable component by the community college. We are currently in the process of adopting Tech Prep which lists this course in the engineering module leading to concentrated study areas of a certificate or associate nature.

General Evaluation:
These additional funds were a tremendous help to an LEA such as Northampton. It also gave us an additional opportunity to coordinate further with local post-secondary facilities.

ABSTRACT
Vocational Education Exemplary and Innovative Projects
1987-88

Title of Project: Coordinating Technology Education

LEA: Wilkes County

Project Coordinator: Rex Barker

Address: 201 West Main Street
Wilkesboro, NC 28697

Telephone No. (919) 838-3921

Project Period: July 1, 1987 - June 15, 1988

No. of Students Benefiting from Grant: 99

No. of Teachers Involved: 4

Organizations or Companies Involved with Project:
Wilkes County Public Schools
Wilkes Community College

Expenditures from Grant Funds:	$15,000.00
Local Expenditures:	9,532.10
Total:	$24,532.10

Brief Description of Project:
This project was designed to facilitate a smooth transition of Principles of Technology students from high school to technical training at the community college. Students were provided counseling in career awareness and potential technical training. Math and science concepts were emphasized. As a result of this project, needed equipment, materials, and supplies were either purchased or manufactured by involved teachers.

Objectives:
1. To provide students with awareness of careers and opportunities in technical fields.
2. To advise students who plan to enter technical fields of the need to be adequately prepared in math and science.
3. To provide information to students on the opportunities available in areas of technology at Wilkes Community College.
4. To provide comprehensive assessment services to students.
5. To provide smooth transition for Principles of Technology students from high school to the technical programs at Wilkes Community College.

Procedures:

a. Provided career awareness and knowledge of job opportunities through use of videos, computer programs, books, pamphlets, catalogs, and resource persons.
b. Provided individual conferences at least yearly to Principles of Technology students and made curriculum recommendations in math and science courses.
c. Advised students who plan to enter technical field of the need to be adequately prepared in math and science through group and individual sessions.
d. Explained to students the opportunities available at Wilkes Community College in areas of technology through classroom visits by the college staff, by high school guidance counselor sessions, and by field trips to Wilkes Community College.
e. Provided comprehensive assessment services through use of interest inventories and follow-up of prospective students.
f. Implemented policy by which Wilkes Community College will recognize the validity of the high school Principles of Technology course by allowing students entering Wilkes Community College to advance into the next higher related level of subject matter, thus eliminating repetition.

Products:

Equipment necessary for our Principles of Technology courses was either purchased or manufactured by teachers.
Teaching materials and supplies were also purchased.
An articulated curriculum of high school. Principles of Technology and community college United Technical Concepts was developed.

General Evaluation:

As a direct result of this project, students should make wiser decisions in high school. We believe more students will graduate and enter community college technical programs. Students should be better prepared to make career decisions, and more well-trained and qualified technicians should enter the work force.

Comments:

This project has proved to be very beneficial to our technical education program. Needed equipment, materials, and supplies have been made available. Understanding, communications, and articulation have been firmly established between the Wilkes County School System and Wilkes Community College in technical education. The greatest benefit is a vastly improved technical education program for our students.

Using Computer Assisted Manufacturing (CAM) Software in Metals Manufacturing Technology, Trade and Industrial Education Program

Manufacturing, using machining of materials processes, is being revolutionalized by the use of computer assisted manufacturing software. Using computer assisted drafting (CAD) and computer assisted manufacturing (CAM), industry now has the ability to create a drawing using CAD and transfer the drawing to CAM operation, thus developing an automated machining process. This is greatly improving America's competitiveness in the manufacturing of goods.

ABSTRACT
Vocational Education Exemplary and Innovative Projects
1987-88

Title of Project: Using CAM Software in Metals Manufacturing Technology, Trade and Industrial Education Program

LEA: Greensboro City Schools

Project Coordinator: Joe Miller

Address: 712 N. Eugene Street
P. O. Drawer V
Greensboro, NC 27401

Telephone No. (919) 370-8285

Project Period: August 1987 thru June 1988

No. of Students Benefiting from Grant: 34

No. of Teachers Involved: 2

Organizations or Companies Involved with Project:
Learning Labs, Inc. (CAM Software & Computers)
P. O. Box 122, Calhoun, GA 30701
Hebert Machine Tool Co. (CNC Lathe & Milling Machine)
209 Lawton Road, Charlotte, NC 28297-6287

Expenditures from Grant Funds:	$48,455.94
Local Expenditures:	-0-
Total:	$48,455.94

Brief Description of Project:
This project provided for: implementing of CAD into the Technical Drafting Program and the CAM into the Metals Manufacturing Technology program at Weaver Education Center.

Objectives:
1. To develop and implement CAD into the Technical Drafting Program and CAM into the Metals Manufacturing Technology program.
2. To offer CAD/CAM Workshops.
3. To prepare high school students for entrance into the CAD/CAM job market.

Procedures:

1. Meetings with CAD/CAM instructors (community colleges), CAD/CAM and CNC machine vendors, and representatives of local industry to determine equipment and software.
2. Ordering the equipment.
3. Setting up equipment.
4. Training sessions on equipment.

Products:

1. The CNC equipment was put into use for instructing 2nd and 3rd year machine students the 4th nine-week period of school year 1987-88.
2. Five students learned "G" code CNC Milling and CNC lathe at Weaver Education Center summer school (summer of 1988). Four of these students graduated and are working at CNC in local industry. The other student is presently enrolled in second year metals manufacturing technology.
3. The CAM software is now being put into operation and a curriculum is being developed.

General Evaluation:

Feedback from industry as well as everyone involved has been very positive. I chose Emco CNC machines because each uses the "G" and "M" code CNC system. The majority of local industry used the same codes.

Comments:

After considerable research into CAM, I found that an understanding of CNC (Computer Numerical Control) is important. Therefore, I am presently taking my 2nd and 3rd year metals manufacturing technology students through units of CNC milling and CNC lathe.

When the students have a good feel for CNC, they will be shifted to units on CAM. I am in the process of writing a curriculum on CAM.

ABSTRACT
Vocational Education Exemplary and Innovative Projects
1987-88

Title of Project: Computer Assisted Manufacturing

LEA: Lee County

Project Coordinator: Everette Bradley

Address: P. O. Box 1010
Sanford, NC 27330

Telephone No. (919) 774-6226

Project Period: July 1, 1987 - June 30, 1988

No. of Students Benefiting from Grant: 100

No. of Teachers Involved: 2

Organizations or Companies Involved with Project:
Central Carolina Community College
Advisory Committee representing local industry

Expenditures from Grant Funds:	$50,000
Local Expenditures:	10,000
Total:	$60,000

Brief Description of Project:
The project involved drafting (CAD) and our metals technology program. Drawings created in drafting can be used to enter a CAM program which controls a milling machine and a lathe to make the part designed. All processes are computer controlled.

Objectives:
1. To develop and implement the use of CAD/CAM into the Trade and Industrialcurriculum.
2. To develop CAD/CAM curriculum modules.

Procedures:
Formation of a CAD/CAM Advisory Committee to give us direction.
Survey of local industry.
Visit other schools and industry to learn about CAD/CAM.
Computer equipment/software selected and purchased.
Operational start up.

Products:
The competencies have been identified for CAD/CAM.
Six units of instruction have been written along with the test items. The materials total 199 pages.
Major Objectives include:

Unit I Upon completion of the orientation unit, the student will be able to describe the general history of numerical control and the occupational outlook and employment opportunities of the trade. The student will also be able to define terms and identify skill requirements associated with the trade, and types of machines controlled by numerical control.

Unit II Upon completion of the safety unit, the student will be able to describe appropriate practices for working safely in programming and operating a CNC machine.

Unit III Upon the completion of the unit on machine movements, the student will be able to identify machine axes, auxiliary axes, and point identification using absolute and relative (incremental) coordinates. The student will also be able to describe machine movements and identify the major components of a numerical control and computer numerical control system.

Unit IV Upon completion of the basic programming unit, the student will be able to start a CNC machine, initialize the system and stop the machine, describe the difference between coded and prompted input languages. The student will also be able to arrange a program into the start (heading), body, and end sections, write a program to generate angles and arcs using cartesian and polar coordinates, formulate and run line and arc drawing programs, and define the three types of zero reference points.

Unit V Upon completion of the advanced programming unit, the student will be able to write programs using cutter path dimensions and part path dimensions with cutter radius compensation, and set-up and locate the program zero on the tooling or part. The student will also be able to set up the machine for a production run, and perform tool change and Z axis offsets.

Unit VI Upon completion of the unit on fixed cycles and special routines, the student will be able to write subroutine programs and simple and repeat program loops. The student will also be able to perform pocket routines, drill and bolt circle fixed cycles, and describe the general error codes on CNC machines.

General Evaluation:
Overall this project proved to be a huge success. Every objective of the project was achieved.

Comments:
Keep Exemplary Projects alive and well. We all profit from these projects because it allows us to move out on the cutting edge.

Applying Basic Skills in Vocational Education

Vocational teachers play an important part in teaching basic skills. These skills are applied in vocational courses, but they need greater emphasis. Perceived student deficiencies in basic skills have been a focus of recent educational reform movements. Having a planned, systematic, instructional emphasis is one strategy in helping vocational teachers improve their basic skills instruction within the content of their subject matter.

ABSTRACT
Vocational Education Exemplary and Innovative Projects
1987-88

Title of Project: Applying Basic Skills Competencies in Vocational Education

LEA: Franklin County

Project Coordinator: Elizabeth S. Keith

Address: P. O. Box 449
Louisburg, NC 27549

Telephone No. (919) 496-4159

Project Period: August, 1987 - June, 1988

No. of Students Benefiting from Grant: 1,000

No. of Teachers Involved with Project: 11

Organizations or Companies Involved with Project:
R & R Evaluators, Inc. Decatur, GA 30030

Expenditures from Grant Funds:	$9,900.
Local Expenditures:	1,000.
Total:	$10,900.

Brief Description of Project:
This project was designed to enable vocational teachers in conjunction with general education teachers to identify and subsequently adapt current vocational materials and competencies to the integrated basic skills concept. By developing a handbook of strategies, an increase in student performance levels in the basic skills areas of communication and computation will be ongoing.

Objectives:
1. To increase participant awareness of the opportunities which their courses offer to provide instruction in communication and computational skill development.
2. To identify and define basic skills that are taught in vocational education.
3. To provide participants examples of teaching basic skills and help them gain proficiency in planning strategies for infusing basic skills in vocational education courses.
4. To enable participants to become resources for basic skill infusion into vocational education courses.

Procedures:
After a two-day facilitated training workshop, teacher participants met five times during the year to discuss and compile strategies. During the year, students were given a pre- and post-test. General education teachers along with vocational education teachers worked together to develop strategies that emphasize basic skill intergration into vocational courses. Each participant developed strategies for their area of instruction.

Products:
Teacher Handbook - "Strategies for Basic Skills Instruction in Vocational Business and Office and Home Economics Education"

General Evaluation:
Teachers conducted ongoing evaluations throughout the year using integrated basic skills instruction in their classrooms.
Students were given post-tests and significant improvement was shown.
Participants were evaluated at project completion and found greater emphasis being placed on integration of basic skills and student improvement in the areas of communication and computation.

Comments:
Project was successful and will be ongoing.

ABSTRACT
Vocational Education Exemplary and Innovative Projects
1987-88

Title of Project: Applying Basic Skills in Vocational Education

LEA: New Bern-Craven County

Project Coordinator: L. Douglas Davis

Address: 3600 Trent Road
New Bern, NC 28562

Telephone No. (919) 638-2133

Project Period: July 1, 1987 - June 30, 1988

No. of Students Benefiting from Grant: 5,547

No. of Teachers Involved: 439

Organizations or Companies Involved with Project:
New Bern Senior High School
West Craven High School
Havelock High School
J. T. Barber Jr., High School
Craven Community College
Dobbs School, Kinston, NC
Havelock Middle School
H. J. MacDonald Middle School
West Craven Middle School
State Dept. of Public Instruction
Neuse River Council of Governments, JTPA

Expenditures from Grant Funds:	$9,991.14
Local Expenditures:	3,500.00
Total:	$13,491.14

Brief Description of Project:
The project was divided into two parts. One part involved students who were administered pre- and post-tests on Basic Skills. The second part involved staff development on Integrating the Curriculum and Applying Basic Skills in Vocational Education. The project involved principals, teachers, counselors, central office personnel, and persons from other agencies.

Objectives:
1. To help teachers recognize the opportunities their courses offer for providing instruction in basic skills.
2. To help teachers gain proficiency in planning for the teaching of basic skills.
3. To have vocational teachers teach the identified basic skills in their classrooms.
4. To compare scores of students enrolled in vocational courses before and after basic skills instruction.

Procedures:

Part I:

Vocational teachers were selected at the combined schools to cover all areas of vocational education. Students were selected from classrooms, choosing every 5th student.

Pre-Test - Administered in January
Post-Test - Administered in May
Twenty-two students took first test only - transferred, dropped out or homebound test given in one class period for most students, but students were given time to complete the test without interruption.

Part II:

Each middle and high school principal was invited to attend the staff development workshop in July. Each middle and high school principal was also asked to select an interdisciplinary team to attend the workshop. The evaluations on the workshop were very good. Following the workshop in July, each middle and high school principal was requested to divide the faculty members into teams for planning purposes. A presentation on BASICS: Bridging Vocational and Academic Education was made to the entire faculty in each middle and high school during the school year.

Products:

Materials for teacher use have been developed by individual schools. We have not prepared anything system wide such as a curriculum guide.

General Evaluation:

The project, Applying Basic Skills in Vocational Education, has been a catalyst in focusing attention on teaming and involving vocational education in the planning process. We believe the project has been very worthwhile in bringing recognition to the importance of vocational education.

Comments:

Part I:

Evaluator feels attitude of students was detrimental to valid evaluation. The fact that the test had no effect on school grades made them apathetic toward the test.

Part II:

Project Director feels Applying Basic Skills in Vocational Education has enhanced the efforts of Integrating the Curriculum in the New Bern-Craven County Schools. BASICS: Bridging Vocational and Academic Education is being used as a guide for team planning. The middle schools have been divided into interdisciplinary teams and the high school faculty members have been divided into clustered teams for planning purposes.

Project Director believes that vocational education has played a key role in Integrating the Curriculum through the Project: Applying Basic Skills in Vocational Education.

ABSTRACT
Vocational Education Exemplary and Innovative Projects
1987-88

Title of Project: Applying Basic Skills In Vocational Education

LEA: Northampton County

Project Coordinator: Linda Robbins

Address: P. O. Box 158
Jackson, NC 27845

Telephone No. (919) 534-1371

Project Period: July 1, 1987 - June 30, 1988

No. of Students Benefiting from Grant: 25

No. of Teachers Involved: 4

Expenditures from Grant Funds:	$4,734.28
Local Expenditures:	-0-
Total:	$4,734.28

Brief Description of Project:
The purpose of the Basic Skills project was to adopt a successful Chapter I Reading Rotation model to vocational education utilizing skill development teachers and resource centers. Identified students participated in a 2-hour block component for emphasis on basic skills as related to their vocational program.

Objectives:
1. To make vocational teachers aware and encourage them to emphasize basic skills in day-to-day activities.
2. To have Disadvantaged/Handicapped Resource teachers reinforce basic skills as a scheduled block component for academically disadvantaged students.
3. To develop a model for teaching students who are academically disadvantaged.

Procedures:
Students in grade eight are identified by CAT scores ranging between the 25th and 50th percentiles. Assessment data indicates program areas of interest. Modifications of selected classes included identification and incorporation of basic skills competencies. Lessons are coordinated so that reinforcement occurs in a methodical, yet reality-centered pattern. Students attended the regular skill class, then received a second hour of instruction (focusing on the application of basics with the support teachers).

Products:

- Adaptation of Reading English Rotation Program Model for disadvantaged
- Identified students
- Assessment
- Placement mainstreamed in regular vocational program (ex. Typing I, 20 students).
- Supportive Services (disadvantaged students only received additional attention)

General Evaluation:
Originally planned program areas and teachers did not materialize as anticipated. This model works extremely well with the right personnel and Northampton was forced to modify its original plans due to staff turnovers and scheduling assignments. Program areas utilized last year were Marketing and Auto Mechanics. The Marketing was unique in that the two teachers infused Basic Skills into a DECA activities package such that these potential dropouts were actually working toward a reward.

Comments:
Teachers listed more time for staff development and more coordination between reading and math teachers as keys to ultimate success.

ABSTRACT
Vocational Education Exemplary and Innovative Projects
1987-88

Title of Project: Applying Basic Skills in Vocational Education

LEA: Wake County

Project Coordinator: Malona Maxwell/ Abby Kurtz

Address: P. O. Box 28041
Raleigh, NC 27611

Telephone No. (919) 790-2552

Project Period: July 1, 1987 - June 30, 1988

No. of Students Benefiting from Grant: 99

No. of Teachers Involved: 12

Organizations or Companies Involved with Project:
Dr. Naomi Richmond from A & T University

Expenditures from Grant Funds:	$5,484
Local Expenditures:	2,557
Total:	$8,041

Brief Description of Project:
The project evaluated the basic skills being taught in the vocational classes as well as prepared selected vocational education teachers to use their vocational content to teach basic skills.

Objectives:
1. To help teachers recognize the opportunities their vocational education courses offer for providing instruction in basic skills.
2. To help teachers gain proficiency in planning for the teaching of basic skills.
3. To have vocational education teachers teach the identified basic skills in their classrooms.

Procedures:

1. Vocational education teachers participated in a ten-hour staff development to be trained in the use of basic skills for their classroom instruction.
2. A pre-test was administered to a class of vocational education students by each trained teacher.
3. The teacher incorporated basic skills throughout the course.
4. A post-test was administered at the conclusion of the course.
5. Results were submitted to project coordinators.
6. Project coordinators analyzed the data.

General Evaluation:

In general, both the students and teachers appeared to benefit from the increased emphasis on basic skills in their vocational classes.

Comments:

Increased exposure to the use of basic skills in all areas of study may eventually benefit students, but before definite proof can be established one would have to work with the students over an extended period of time.

Entrepreneurship Challenges

Small businesses remain a major source of jobs for a wide cross section of workers. The entrepreneurial economy now serves as a catalyst for the creation, expansion, or retention of jobs; for self-employment; and for business opportunities.

Vocational programs are an excellent vehicle for teaching entrepreneurial awareness, skills, and development. Students can apply these concepts and skills to the specific occupational areas in which they are interested.

ABSTRACT
Vocational Education Exemplary and Innovative Projects
1987-88

Title of Project: Entrepreneurship Challenges

LEA: Avery County

Project Coordinator: Margaret Cartner

Address: P. O. Box 1300
Newland, NC 28657

Telephone No.: 704-733-0151

Project Period: July 1987-June 1988

No. of Students Benefiting from Grant: 550

No. of Teachers Involved: 20

Organizations or Companies Involved with Project:

Lees-McRae College
Mayland Community College
Appalachian State University
The Elk Horn Company
Avery Journal
Nationwide Insurance
Shamrock Shoppe
DJ's Sportswear
First Union Bank
Hardie's General Store
Belks
Western Carolina University
Center for Improving Mountain Living
Di-Carve Company
Sloop Memorial Hospital

Expenditures from Grant Funds:	$17,700
Local Expenditures:	-0-
Total:	$17,700

Brief Description of Project:
An entrepreneurship workshop was provided to train our vocational education teachers to integrate quality entrepreneurship education into our vocational curriculum with the outcome being that our students be better equipped to become successful entrepreneurs.

Objectives:
1. To assess entrepreneurship competencies in state requirements.
2. To prepare teachers to integrate entrepreneurial competencies into their instructional areas through workshops.
3. To inform a public school/private sector partnership to link theory and practice of entrepreneurship by using advisory committee.
4. To expose students to various members of the local entrepreneurial community in order to gain valuable hands-on experiences in entrepreneurship.
5. To provide projects and activities for students to demonstrate their understanding and knowledge of entrepreneurship.

Procedures:
1. Review entrepreneurship competencies
2. Organize and utilize advisory committee
3. Pre-test vocational education teachers
4. Conduct workshops
5. Take field trips
6. Provide projects/activities for students to demonstrate theory and practice of entrepreneurship
7. Award students prizes
8. Post-test vocational education teachers
9. Conduct evaluation of project

Products:
Resource list: Includes magazines, supplementary books, texts, cassettes, projects, activities, software, videos.
Entrepreneurship booklet: includes teaching unit to be used by vocational education teachers.

General Evaluation:
1. Pre- and post-test teachers to determine knowledge level
2. Evaluation instrument used to assess teacher success
3. Response from local entrepreneurs

Comments:
We are deeply indebted to the State Department of Public Instruction for funding our school for this grant. It has been a very good learning experience not only for the teachers and students, but also for those involved in the planning and implementing of the grant.

ABSTRACT
Vocational Education Exemplary and Innovative Projects
1987-88

Title of Project: Entrepreneurship Challenges For Teenagers

LEA: Buncombe County

Project Coordinator: Willie L. Vincent

Address: 146 Wyoming Road
Asheville, NC 28803

Telephone No. (704) 254-7732

Project Period: September, 1987 - June, 1988

No. of Students Benefiting from Grant: 250

No. of Teachers Involved: 20

Organizations or Companies Involved with Project: 7

SCORE (Service Corps of Retired Executives)
Small Business, Asheville office
News Media - Management
Buncombe County School System
Hill Street Day Care Center
Mrs. Georgia H. Roland, Director
Knapp Companies
Mr. David Knapp, Entrepreneur
Enka High School Chapter 151
Future Business Leaders of America

Expenditures from Grant Funds:	$20,000
Local Expenditures:	-0-
Total:	20,000

Brief Description of Project:
This project, Entrepreneurial Challenges for Teenagers, involved teachers and students at Enka High School. The main objective of the project was to research and develop teaching materials designed to make students aware of a second career choice - small business ownership. Twenty Enka High School teachers participated in a 15-hour session entitled "How to Start Your Own Business." The director of the Asheville Small Business Center arranged to have experienced business persons teach the course. The participating teachers received one unit of credit from the Buncombe County School System. Members of the Future Business Leaders of America, business students, and other vocational students were involved in visiting and observing the activities of a business of his/her choice.

Objectives:
1. To provide an environment suitable for teenagers to develop entrepreneurship skills.
2. To assist students in deciding on specific career objectives from among the great number of employment opportunities in the business world.

3. To identify training that is needed for teachers to integrate entrepreneurial competencies into their instructional areas.
4. To provide activities that will give students valuable experiences in entrepreneurship.
5. To identify and compile resource materials to be used by teachers who teach small business ownership or related courses.

Procedures:

1. Contacted the SCORE office and the Small Business Center in Asheville to request assistance with the project.
2. Surveyed the faculty members and administrative staff to determine how many of them would be interested in participating in a Small Business/ Entrepreneurship Workshop. Thirty teachers and other personnel signed up for the workshop which had been approved by the Buncombe County School system for one unit of credit. Fourteen teachers attended all five sessions.
3. Had SCORE executives and the Small Business Center to provide community resource persons as teachers for the teachers' workshops.
4. Had members of FBLA and other student organizations attend a "How to Write a Business Plan" workshop. The end product was a business plan prepared by each student organization and that business was operated for a day as a part of the Enka Chapter 151 of FBLA Small Business/ Entrepreneurship Emphasis Day.
5. Books, simulations, supplies, etc. were purchased to be used to teach a Small Business/Entrepreneurship class during the school year, 1988-89 with the assistance of the Enka High School bookkeeper and the vocational and assistant vocational directors.
6. Held banquet as one of the end products of the project. The director of SCORE and Mr. David Knapp were guest speakers for the occasion. Mr. Knapp is a young, successful entrepreneur.

Products:

1. Videocassette programs designed to help students learn how to plan, start, and operate a small business of their choice.
2. A unit on "How to Finance a Small Business" as a part of the new Small Business/Entrepreneurship Curriculum Guide for North Carolina business and marketing teachers.
3. An annotated list of teaching materials (we shared this information with more than 30 teachers at the August Summer Conference.)
4. Individualized simple business plans developed by members of the management class at Enka High School.

General Evaluation:

This project was evaluated, in writing, by the participating teachers and the teaching staff of the project. Students in the Business Management Class evaluated the program on videocassette tape. Based on comments, oral and written, and observing the reaction of participants in the project, the project has been successful. The first Small Business/Entrepreneurship Class is being taught at Enka High School this school year, 1988-89.

Comments:
Researching and compiling materials to be used in the high school Small Business/Entrepreneurship classes has been an enlighting and enjoyable experience. I would recommend such involvement for other vocational education teachers. Collecting, compiling, and revising teaching materials for small buisness ownership will be a continuous process, and plans are being made to videotape success stories in the Asheville/Buncombe County area.The knowledge gained from the development of this project has been shared with other high school teachers, and I am willing to continue this process upon request. Short-range plan is to help students enrolled in Small Business/Entrepreneurship and Business Management classes plan, start, and operate a business in the community as an ongoing project.

ABSTRACT
Vocational Education Exemplary and Innovative Projects
1987-88

Title of Project: Entrepreneurship Challenges

LEA: Durham County

Project Coordinator: Jim Albright

Address: Northern High School
117 Massey Road
Durham, N. C. 27712

Telephone No. (919) 477-0421

Project Period: July 1, 1987 - June 30, 1988

No. of Students Benefiting from Grant: 5,633

No. of Teachers Involved: 39

Organizations or Companies Involved with Project:
Greater Durham Chamber of Commerce; The U. S. Small Business Administration; The American Institute of Small Business; The National Center For Research in Vocational Education, Ohio State University, National Entrepreneurship Education Consortium; The U.S. Association for Small Business and Entrepreneurship; National Career Information System, Univeristy of Oregon; Maryland Interactive Technologies; The University of Cincinnati College of Business Administration Management Development Center; Baylor University Center for Entrepreneurship; EMC Publishing; and Technical Industries, Inc. of Georgia.

Expenditures from Grant Funds:	$15,118.29
Local Expenditures:	8,232.43
Total:	$23,350.72

Brief Description of Project:
The project involved the identification of educational concepts that are covered by information relating to entrepreneurship competencies. Information concerning those competencies already being taught in the Durham County School system was gathered and reviewed. Materials were purchased from many different sources (these included: written, audio, video and computer software materials) which related to the competencies identified as important to the understanding of entrepreneurship. Suggested activities and projects were developed that helped the instructor give students a more valid understanding of the advantages and disadvantages of undertaking the operation of a small business. Workshops for vocational teachers were held to help them recognize the competencies already being taught and to develop suggestions relating to how all teachers might use entrepreneurship in their individual subject areas. The teachers were introduced to materials and given hands-on experience with the new materials.

Objectives:

1. To develop entrepreneurship competencies, secure and evaluate materials, and develop suggestions for the teaching of whole units or parts of units to entrepreneurship in the Durham County School system's vocational education programs.
2. To prepare vocational teachers to integrate entrepreneurial competencies into their instructional areas.
3. To create community involvement in the development of the theory and practice of entrepreneurship education in the Durham County Schools.
4. To support activities that give students entrepreneurial experiences.

Procedures:

1. Upon project approval in July, 1987, an Entrepreneurship Advisory Committee of local business, education and student leaders was developed.
2. An evaluation of the competencies being taught in vocational education courses was conducted, using PACE as a basis for this evaluation.
3. Materials were ordered to be used to develop lists of sources available for the various components on the competency list.
4. Curriculum guides, written material, computer programs, and audio-visual materials have been used with groups of students involved in entrepreneurship projects. These projects included live business projects (entire class) and individual business projects with students starting and operating a business of their own for a specified period of time. In both cases, materials were evaluated for ease of use, completeness, and accuracy. The business community in Durham County was involved in great detail. This was both appreciated and necessary for the success of the projects.
5. Inservice for five teachers was held to develop competencies, evaluate materials, suggest entrepreneurial activities, and plan for teacher inservice workshops that were held in June, 1988, and August, 1988. These inservice workshops consisted of 30 hours of contact time which was used to familiarize vocational teachers with the entrepreneurship competencies and to give them hands-on experience. They used all the materials purchased to support entrepreneurship in vocational classes. Upon completion of the workshop, all teachers evaluated the competency list, materials, and activities as they would apply to their individual program area.
6. Upon completion of the workshop, lists of competencies, materials available, and suggested activities are to be made available to all secondary vocational teachers in Durham County so that entrepreneurship can be incorporated into their courses.
7. Near the completion of the 1988 - 1989 school year a questionnaire will be submitted to vocational teachers regarding the use of entrepreneurship in their individual courses to further evaluate the success of this project and to help upgrade areas that need further study.

Products:

1. Materials list
2. Suggested Activities list
3. List of competencies
4. Outline for Individual Business Project

Evaluation:

Entrepreneurship in Vocational Education is being incorporated into the vocational curriculum in Durham County. There will be a continuous evaluation process to upgrade the competencies, materials and activities used. It has been a pleasure working on this project, meeting people from different parts of the United States, and discussing ideas with many groups of people (educators, students and business people). I hope that time and work involved in this project by many people will help develop an increased emphasis on entrepreneurship in our public schools.

1988-89 Exemplary Grants

Strengthening Basic Skills through an Integrated Middle Grades Curriculum

Numerous key competencies in middle grades are presented to students from a variety of disjointed perspectives encompassing various discipline areas. Some such competencies are reiterated unnecessarily, while others may be omitted entirely. Where similar concepts are emphasized in more than a single discipline area, there often is insufficient correlation between such experiences to create a learning bridge for the student which can provide positive learning reinforcement. For example, "hands-on" activities and reasoning exercises designed to teach identical or similar competencies may be totally non-related in terms of instructional implementation and, therefore, totally non-related conceptually to the student, resulting in diminished effectiveness of the reinforcement potential.

ABSTRACT
Vocational Education Exemplary and Innovative Projects
1988-89

Title of Project: Strengthening Basic Skills through an Integrated Middle Grades Curriculum

LEA: New Bern-Craven County

Project Coordinator: L. Douglas Davis

Address: 3600 Trent Road
New Bern, NC 28562

Telephone No. (919) 638-2133

Project Period: July 1, 1988 - June 30, 1989

No. of Students Benefiting from Grant: 2954

No. of Teachers Involved: 181

Organizations or Companies Involved with Project:
Amital Spinning Corp.; Burroughs-Wellcome; Cherry Point-NADEP; Craven County Government; Craven Regional Medical Center; Hatteras Yachts; Proctor & Gamble; Sheraton Complex; Stanadyne; Sun-Journal; Texas Gulf; Tredegar Industries (Ethyl Corp.); Ward and Smith, P.A.; WCTI-TV 12; Weyerhaeuser; WSFL-Radio Station.

Expenditures from Grant Funds:	$9,930.29
Local Expenditures:	600.00 (approx.)
Total:	$10,530.29

Brief Description of Project:
The purpose of the project was to develop and implement a model by which teachers of vocational education and general education jointly plan and teach selected components of an integrated middle grades curriculum.

Objectives:
1. To develop an integrated curriculum model for teaching certain identified competencies from the middle grades level North Carolina Standard Course of Study.
2. To implement the integrated curriculum model.
3. To assess the strengths and weakness of the model as implemented.
4. To develop a guide outlining strategies and methodology for joint planning of an integrated curriculum.

Procedures:
The New Bern-Craven County Schools have been involved in Career Exploration since the beginning of the Middle Grades Program in North Carolina. We have maintained a strong Middle Grades/Prevocational Education/Career Exploration Program as name and content have changed over the years.

Currently we have twenty full-time Career Exploration Teachers assigned to the three middle schools in grades seven and eight. Teachers are assigned to each grade level with an Occupational Information Center in the eighth grade. The organizational structure is basically the same in each of the three middle schools.

The teachers in each school were already divided into interdisciplinary teams for planning purposes. Each team is comprised of a representative from each discipline area as near as possible. A typical team has a Career Exploration Teacher, Math Teacher, Language Arts Teacher, Exceptional Children's Teacher, and wherever possible a Cultural Arts Teacher and Physical Education Teacher. Each interdisciplinary team has a team leader. The team leaders were the core group of leaders for this project at the school level.

All middle school principals appointed a Bridger (coordinator/facilitator) to coordinate the project in their schools. The principal and the Bridger selected representatives to develop an Integrated Middle Grades Curriculum Guide for identified competencies from the middle grades **Teacher Handbooks**. This group worked with other teachers in the development and implementation of the model.

A workshop was held on August 9, 10, and 11, 1988 for the leaders who had been identified to participate. This workshop set the stage for the development and implementation of the Integrated Middle Grades Curriculum Guide.

The project was divided into two separate stages. The first stage was to begin the development of the Integrated Middle Grades Curriculum Guide. This took place in the workshop on August 9, 10, and 11, 1988. The second stage involved the total staff in each school in the development and implementation of the Project. Each middle school adopted the development and implementation of the **Integrated Middle Grades Curriculum Guide** as their School Study - Staff Development Activity. Also, each school devoted one pre-school staff development day to the development and implementation of the Integrated Middle Grades Curriculum Guide.

The morning and early afternoon were devoted to making all Academic teachers more aware of the Career Exploration program. The academic teachers became students, for a day, and the Career Exploration teachers were the teachers.

The students (academic teachers) were divided into equal groups, and they rotated through the Career Exploration Program just as the regular students do except at an accelerated pace. Each group spent about one and one half

hours with each of the Career Exploration teachers. The Career Exploration Teachers conducted a typical class with hands-on activities and explained how their program operated.

The last two hours of the pre-school staff development activity were used to show the concept of the Integrated Middle Grades Curriculum Guide and to develop plans for the development and implementation of a school-wide basis.

The Bridgers became a planning team of four to work with the Project Director (Vocational Director) to provide the leadership in the development and implementation of the Integrated Middle Grades Curriculum Guide. West Craven Middle School was represented by Janice Oakley, Assistant Principal; H. J. MacDonald Middle School was represented by Brenda Kee and Maureen Powell, Career Exploration Teachers; and Havelock Middle School was represented by Martha Lammert, Language Arts/Social Studies Teacher. Throughout the school year, these teachers met at regular intervals to develop and revise the Integrated Middle Grades Curriculum Guide. Several times during the year the information was shared with all teachers so they could have input.

Another important aspect was the cross visitation that took place. The Career Exploration teachers, during their planning period, visited two Academic Teachers' classrooms to observe their instructional program. Also, the Academic Teachers visited two Career Exploration Teachers to observe their instructional program.

The Planning Committee played a key role in keeping the teachers informed. Substitutes were provided for the planning team and each team member met with all the teachers in their school during the teachers' respective planning period. This provided an opportunity to work with the teachers in small groups to share ideas on the Integrated Middle Grades Curriculum Guide.

An evaluation form was developed to give the teachers an opportunity to evaluate the project. The teachers were given an opportunity to evaluate the project at the end of each twelve weeks.

Products:
An Integrated Middle Grades Curriculum Guide showing competencies, disciplines, strategies and activities was developed by the teachers.

The New Bern-Craven County Schools Integrated Middle Grades Curriculum Model was developed by the Project Coordinator and Bridgers. This is a guide for using the Integrated Middle Grades Curriculum Guide described above.

A video on the implementation of the BASICS: Bridging Vocational and Academic Skills Program in West Craven Middle School was produced by the faculty, staff and volunteers. The video was produced to show parents how the curriculum is being integrated.

Evaluation:
The Integrated Middle Grades Curriculum Guide has the potential to improve the curriculum that is already in place. Teachers must have the right attitude toward the Guide and they must be open and receptive to change.

The Guide will provide students an opportunity to see how the subjects relate to one another. The Integrated Middle Grades Curriculum Guide has the potential to improve student performance. However, teachers may be overwhelmed, in the beginning, with the amount of materials with which they have to work.

The Guide will broaden the activities that good teachers have already been doing. Thousands of hours of brainstorming have gone into the Integrated Middle Grades Curriculum Guide.

Comments:
Overall, we feel good about the product that the teachers have developed. We believe it will have a positive impact on strengthening basic skills through an integrated middle grades curriculum.

The following comments were made by the four Bridgers during a brainstorming session on August 16, 1989. The Bridgers are: Janice Oakley, Assistant Principal, West Craven Middle School; Maureen Powell and Brenda Kee, Career Exploration Teachers, H. J. MacDonald Middle School; and Martha Lammert, Language Arts/Social Studies Teacher, Havelock Middle School.

"We are glad the vocational director had the vision to apply for the grant. The vocational director had faith in the teachers and he knew they could do it." Philosophy is important - everyone involved must believe that it is important to correlate Career Exploration and Basic Skills instruction.

The Career Exploration teachers' visits to the academic classes set the tone to make the academic teachers more open. The outcome of this was good public relations with the other teachers. The academic teachers became enthusiastic about Career Exploration.

The visits to other classrooms give you a better frame of reference for correlating instruction. Teachers in other school systems can take our guide and brainstorm about how they wish to correlate subject matter. Our correlations are general because of the way students are assigned to Career Exploration. Correlation is directly related to the way students are scheduled. Another school system may be able to rotate students as a group which we do not do in all schools in our school system.

The visitation between classrooms brought about a cohesiveness among the faculty members. A plus point was that Career Exploration teachers needed to be made to feel important. The visits from the other teachers made them feel very special. Teachers got to know each other better. Students enjoyed having the Academic Teachers see them in another setting.

Tourism Marketing Curriculum

In 1985 over 50,000,000 out-of-state visitors traveled in North Carolina, spending 3.3 billion dollars. An additional 1.3 billion dollars were spent by North Carolinians who traveled within the state. Tourism expenditures are growing at a rate of 10%+ per year. Tourism is North Carolina's second largest seasonal employer. Many of the retail and service businesses in parts of our state are highly dependent on tourists. Proper preparation of graduates for sales and service jobs affected by tourism requires increased emphasis.

ABSTRACT
Vocational Education Exemplary and Innovative Projects
1988-89

Title of Project: Tourism Marketing Curriculum

LEA: Buncombe County

Project Coordinator: Howard Bridges

Address: Buncombe County Schools
P. O. Box 15055
Asheville, NC 28813

Telephone No.(704) 274-7955

Project Period: July 1, 1988 - June 30, 1989

No. of Students Benefiting from Grant: 52

No. of Teachers Involved: 5

Organizations or Companies Involved with Project:
Biltmore Estate, Grove Park Inn, Asheville Civic Center, Thomas Wolf Memorial, Chimney Rock Park, Cooper Travel Agency, Wilcox Travel Agency, Asheville Area Chamber of Commerce, Shoney's, Buncombe County Commissioners, WKSF FM Radio Station, WSKY Radio Station, WLOS-TV Station, Travel Professionals, Preservation Society of Buncombe County, Asheville Buncombe County Library System, CINJADES, Asheville Downtown Development Association, Tourism Development Authority, Stage Door Video, Beaucatcher Cinemas, Asheville Cablevision, Tracks Records and Tapes, The Great Smokies Hilton.

Expenditures from Grant Funds: $31,990.29

Local Expenditures: 0

Total: $31,990.29

Brief Description of Project:
Tourism is becoming the largest industry in Western North Carolina. In order to meet the demand for qualified personnel for the tourism industry, Buncombe County Schools have begun teaching Tourism Marketing in the Marketing Education Program. The primary focus of this endeavor is to enhance student knowledge, prepare students for employment, and identify career opportunities within the tourism industry of Western North Carolina.

Five of the teachers involved in the project completed internships and/or shadowing experiences during the summer of 1988 in a tourism related business. Two curriculum units were developed for use in the classroom, utilizing the data obtained through the internship experiences. Students in the DECA Chapter completed a Creative Marketing Project, which was submitted at the National DECA Career Development Conference and the North Carolina

Vocational Education Teacher's Summer Workshop. Students were involved in the visitation and surveying of businesses to identify current customer service procedures and suggest areas of improvement. Computer equipment giving students hands-on experiences with up-to-date technology was used in the classroom. A working relationship was established with area hotels/motels, tourist attractions, restaurants, and other tourist-related businesses.

Academic Teachers developed a greater appreciation for Career Exploration Teachers. There was mutual respect among teachers. All teachers seemed relaxed and appeared to be having a good time.

The Integrated Middle Grades Curriculum Guide is tied to our overall goal of integrating the curriculum. There was an initial shock of doing it. When the teachers understood the process, they realized they had already been doing it.

Objectives:
1. To establish an effective tourism and travel curriculum for use in the classroom.
2. To establish a valid cooperative training program with local travel and tourism employers and agencies to provide actual work or shadowing experiences for the students involved in this project.
3. To develop Creative Marketing Projects for presentation at the State DECA Conference and other vocational workshops.
4. To increase knowledge of technological advances being used in the tourism industry.
5. To assist students in identifying possible employment opportunities.
6. To give accurate and current information related to the tourism area.
7. To increase their knowledge of operations involved in hotel/motel management and tourist attractions.
8. To complete computer simulations currently being used in the tourism field.

Procedures:
Five Marketing teachers spent time during the summer of 1988 completing internships and/or shadowing experiences with local tourist businesses. Two teachers shadowed various careers within the hotel/motel industry (Grove Park Inn), and five teachers gained knowledge of the industry by observing the management of a local tourist attraction (Biltmore Estate). Each Marketing teacher maintained a weekly journal and met periodically to discuss and evaluate significant data. At the end of the work experience, three teachers identified competencies, developed unit plans, and tested current software related to the tourism industry.

Through the purchase of computers similar to those currently being used by the tourism industry, students were able to experience realistic and life-like situations within the classroom. Current periodicals and video tapes were purchased to support and enhance these experiences.

The Marketing students involved in the project visited the sites where the Marketing teachers completed their internships. Students conducted surveys, traveled to area tourist industries, and prepared a DECA Creative Marketing

Project which was submitted at the National DECA Career Development Conference and the 1989 Vocational Education Summer Workshop.

A shadowing and/or co-op plan was developed for each Marketing student in a travel/tourism business. Levels of employment skills needed to be successful and opportunities for advancement were identified by the students participating in this activity.

Institutions of higher learning which currently offer travel and tourism programs were listed and made available for guidance counselors. In addition, guest speakers from several of these institutions made presentations to the students.

Curriculum guides from other states were collected and used to help set up lesson plans. Other appropriate tourism and travel-related sales, marketing, advertising, promotion, and business management learning activity packets (LAPS), textbooks, workbooks, filmstrips, computer software, and other equipment and supplies were obtained to enhance the testing and evaluation of classroom activities.

Students developed written reports and brochures based on data accumulated throughout the year. These materials were distributed to other students to promote awareness of careers available in tourism marketing.

Products:
Market Research Unit Plan - A curriculum guide with transparencies and handouts was developed to teach the fundamentals of Market Research.

Introduction to Tourism Unit Plan - A curriculum guide with transparencies handouts, and projects was developed to introduce students to the history, economic impact, and employment opportunities of tourism.

Travel and Tourism Brochure - A brochure was designed for high school students to promote tourism careers.

Creative Marketing Project - "Asheville - Making a Reality from an Opportunity" This DECA Chapter Project was submitted for State and National competition. "Youthfest '89" - A Buncombe County/DECA-sponsored dance involving approximately 2,000 students held at a local park. Commemorative T-shirts were designed and sold.

Chimney Rock Survey - A Marketing Research Project involving the development of a guest relations questionnaire and the interviewing of the park's customers was conducted and compiled by the tourism students. Results of the survey were submitted to the Marketing Coordinator of Chimney Rock Park.

General Evaluation:
The Tourism Grant resulted in positive public relations for the two Marketing Education programs involved. New business contacts and supporters within the community were identified. These businesses became involved and committed to the success of the existing tourism marketing program. The focus group established as leadership for the grant project provided real-life information to be used in the classroom. This group of business leaders also provided excellent co-op and shadowing opportunities as well as contacts for the schools.

The Tourism Grant provided teachers and students the opportunity to learn and experience current business practices and procedures being used by the tourism industry. The shadowing experience of the teachers involved in the grant enabled them to identify objectives and develop curriculum to be used in the classroom. Information was gained regarding employment opportunities and necessary skills for employment within the local community.

The benefits derived from all aspects of the grant are immeasurable. The teachers involved are more confident and knowledgeable about the tourism industry. As a result, students are better informed and aware of the opportunities in the tourism industry.

Comments:
The Marketing Education Programs in Buncombe County were extremely pleased to be able to participate in this project. The grant enabled the students and teachers to gain knowledge and to make useful contacts in the tourism industry. The projects completed to meet the requirements of the grant allowed students the opportunity to experience hands-on activities and realistic projects.

Innovative Technology Education Certified Programs Contemporary Technology

Industrial Arts/Technology Education programs in North Carolina are evolving to keep pace with our rapidly changing society that is brought about as a result of technological innovations. Therefore, traditional industrial arts programs must change their focus from the typical project to a more dynamic emphasis of the technologies that are impacting society. In order to facilitate overall change in traditional industrial arts programs, exemplary pilot programs would be established to serve as models where other industrial arts/technology education teachers could model their programs and move toward a technology based program.

ABSTRACT
Vocational Education Exemplary and Innovative Projects
1988-89

Title of Project: Innovative Technology Education Certified Programs/Contemporary Technology

LEA: Durham County Schools

Project Coordinator: Thomas Shown

Address: P. O. Box 3823
Durham, N. C. 27702

Telephone No. (919) 560-3730

Project Period: July 1, 1988 - June 30, 1989

No. of Students Benefiting from Grant: 300

No. of Teachers Involved: 6

Organizations or Companies Involved with Project: 0

Expenditures from Grant Funds:	$17,000.00
Local Expenditures:	26,105.26
Total:	$43,105.26

Brief Description of Project:
The project was designed to develop and implement a curriculum which is aligned to and supportive of the new contemporary technology course of study which has been adopted by the State of North Carolina. The curriculum materials have been designed for the junior high/middle school level primarily. Curriculum materials were created and distributed to the Durham County middle school technology teachers for instructional use in the classroom. The teachers, in turn, applied the new curriculum in the classroom, engaging the students in new activities reflecting our changing technology.

Objectives:
1. To order and receive all needed equipment, media, and supplies.
2. To establish technology library for Durham Co. at Neal Middle School.
3. To complete first and second semester course outlines and lesson plans.
4. To create instructional packages to assist students with further development of their skills in measurement, math, geometry, design problem solving, and environmental assessment.
5. To complete model rocketry design and construction booklet.
6. To hold first workshop on emerging curriculum for all middle school technologyteachers in Durham County.
7. To provide all middle school technology teachers with new curriculum developed at local level.
8. To incorporate bridge building and design activities at Neal M.S.

9. To establish Metric 500 activities at all Durham County middle schools.
10. To intergrate technology elements of the TSA objectives and competitive events into the Durham Co. technology curriculum.
11. To have students explore the development and impact of technology upon society.
12. To introduce students to design rules and principles and apply these rules and principles in the construction of projects.
13. To have students make drawings and designs using CAD.
14. To have students experiment and design CO2 propelled vehicles using scales, and electro-mechanical devices interfaced with the Apple II computer.
15. To have students produce technical drawings.
16. To have students explore different construction techniques.
17. To have students design and develop models.
18. To have students apply principles of planning within the process of problem solving.
19. To involve students in experimentation and laboratory experiences throughout the project.

Procedures:
After reviewing the philosophy and goals of the Contemporary Technology curriculum, consulting appropriate resource people, and reviewing current literature pertinent to the subject matter, a list of objectives and goals were set. Necessary equipment was purchased. A resource library was established which included written text materials, video, and software. A resource book was written which provided technology teachers with a course outline, classroom management and implementation materials, lesson outlines, instructional materials, resource information, safety tests, and information concerning the Technology Student Association. With the assistance of a high school student, a booklet on model rocketry was written with accompanying technical illustrations. This was distributed to all Durham County technology teachers and to interested technology teachers attending the Vocational Summer Workshop of August 1989. Throughout the project there was continual evaluation of the goals, objectives and accomplishments.

Products:
Technology Resource Book (as described in the previous section), and DCS-1 Rocketry Booklet.

General Evaluation:
The project was evaluated by determining the number and quality of the objectives met. Upon review it will be seen that all major objectives have been attained. The qualitative component was measured by the teachers and students involved. The teachers evaluated the material for validity, technical accuracy, comprehension, curriculum alignment and student interest and achievement levels.

Comments:
The program has succeeded in accomplishing its major objectives of developing a curriculum reflective of today's technology, training our teachers as needed, and most importantly, bringing these changes to the classroom in the form of new activities and areas of study.

The funds provided by this grant have enabled the students to experience a more contemporary and appropriate technology education. This, in turn, is more meaningful, valuable, and interesting to the students. Given our concerns relating to international competition, resources applied in this manner could not have been spent more wisely.

Innovative Technology Education Certified Programs Transportation Technology

Industrial Arts/Technology Education programs in North Carolina are evolving to keep pace with our rapidly changing society that is brought about as a result of technological innovations. Therefore, traditional industrial arts programs must change their focus from the typical project to a more dynamic emphasis of the technologies that are impacting society. In order to facilitate overall change in traditional industrial arts programs, exemplary pilot programs have been established to serve as models where other industrial arts/technology education teachers could model their programs and move toward a technology based program.

ABSTRACT
Vocational Education Exemplary and Innovative Projects
1988-89

Title of Project: Transportation Technology

LEA: Alexander

Project Coordinator: Kim Kulawik

Address: West Junior High
Route 8, Box 220,
Taylorsville, NC 28681

Telephone No.: (704) 495-7968

Project Period: July 1, 1988-June 30, 1989

No. of Students Benefiting from Grant: 120

No. of Teachers Involved: 1

Expenditures from Grant Funds:	$16,164.16
Local Expenditures:	-0-
Total:	$16,164.16

Brief Description of Project:
The Technology Program at West Junior High implemented and field tested a transportation technology curriculum that directly involved two sections of transporation technology students.

Objectives:
1. To implement and field test a technology curriculum that studies the systems of transportation which include land, sea, air, and space.
2. To develop a series of technology learning activities based on the competencies of Transportation Technology.
3. To develop a state-of-the-art technology education lab where students reinforce abstract concepts with concrete experiences.
4. To develop a professional quality video cassette presentation of the transportation program in action.
5. To emphasize the development of mental process skills such as creative thinking, decision making, and problem solving that will provide students a basis for success in their daily lives.
6. To address and reinforce the following constants: safety, mathematics, science, communications, psychomotor skills, and career-related information.
7. To change the image of a transportation program from an auto shop to a technology lab.
8. To organize and involve a chapter of TSA in the project.

Procedures:
A teacher-made pre- and post-test was administered to transportation technology students. Technology learning activities were developed for selected objectives in the students' course of study. The activities were field-tested by students and used to reinforce concepts taught in the lesson. Changes in time allotments and levels of difficulty were made as needed and the activity was retested. Successful learning activities were filed for future use and disseminated to other teachers at summer conference.

Products:
1. A total of twenty-three technology learning activities were developed, refined, and disseminated for the four units of the curriculum.
2. A twenty-minute video on selected learning activities was produced.
3. Students designed and constructed a wind tunnel for evaluating aerodynamics of various transportation vehicles.
4. Students designed and constructed an island waterway to evaluate the performance of water transportation vehicles.
5. Students designed a track for use in radio controlled transportation activities.

General Evaluation:
Each technology learning activity was evaluated by the instructor as it was completed by a group of students.

The overall evaluation of the project will be determined by the successful use of the TLA's by other technology teachers.

Comments:
All technology students at West Junior High School benefited from products developed throughout this grant.

Laser Technology in Electronics

Lasers are used more and more in industrial manufacturing and servicing. Lasers are an important part of automated processes in industry. Students need to become aware of the principles and uses of lasers. The electronics curriculum is appropriate to integrate the teaching of laser technology.

ABSTRACT
Vocational Education Exemplary and Innovative Projects
1988-89

Title of Project: Laser Technology in Electronics

LEA: Harnett County

Project Coordinator: Donald H. Damon

Address: P. O. Box 1029
Lillington, NC 27546

Telephone No. (919) 893-8151

Project Period: July 1, 1988 - June 30, 1989

No. of Students Benefiting from Grant: 16

No. of Teachers Involved: 1

Organizations or Companies Involved with Project:
Harnett County Schools Central Office; Vocational Job Placement Service; Triton High School; Central Carolina Community College; N. C. Employment Security Commission; Tracor, Aerospace; Good Hope Hospital; Erwin Mills, Inc.

Expenditures from Grant Funds:	$5,345.64
Local Expenditures:	5,988.09
Total:	$11,333.73

Brief Description of Project:
The Harnett County Schools developed instructional materials, including unit modules, competencies, daily lesson plans, tests, and evaluations, to use along with laser equipment in the electronics curriculum in the secondary classroom.

Objectives:
1. To select appropriate laser instructional materials and equipment for integrating laser technology into the electronics curriculum.
2. To train electronics teachers to use laser equipment.
3. To develop instructional modules for teaching laser technology to secondary electronics students.
4. To determine the feasibility of teaching laser technology as an integrated subject within electronics.

Procedures:
The Harnett County administrators and staff in coordination with the Advisory Committee conducted surveys, reviewed materials and equipment, organized teacher training workshops and arranged demonstrations and purchase of laser equipment. Instructional modules consisting of competency goals, objectives, activities, daily lesson plans and test items were prepared. The modules were utilized and evaluated in this Electronics II class at Triton High School, Erwin, NC in the Spring 1989 semester.

Products:
1. Instructional Modules
2. Competency Goals
3. Objectives
4. Assignment and Job Sheets
5. Test Items
6. Final Report
(First five items listed above were compiled into a curriculum guide.)

General Evaluation:
The students displayed a high level of interest in laser technology and equipment. This was particularly true when military and space applications were discussed. They were successful in performing experiments and completing written assignments. Their performance on the written test was excellent as evidenced by the following compiled final test scores: Low 80, Average 87.4, Mean 87, High 97.

Comments:
It is recommended that laser technology be integrated into the secondary electronics curriculum and that workshops in the community college system be made available to prepare teachers for utilizing laser technology instructional materials and equipment. (Currently available through Central Carolina Community College, Sanford, NC).

ABSTRACT
Vocational Education Exemplary and Innovative Projects
1988-89

Title of Project: Laser Technology in Electronics

LEA: Johnston County

Project Coordinator: Bill Ellis

Address: North Johnston High School
Box 340
Kenly, N. C. 27542

Telephone No. (919) 284-2031

Project Period: July 1, 1988 - June 30, 1989

No. of Students Benefiting from Grant: 37

No. of Teachers Involved: 1

Organizations or Companies Involved with Project:
North Johnston High School
Carolina Training Associates
Metrologic Inc.
Central Carolina Community College
Scholastic Futures Publishing

Expenditures from Grant Funds:	$5,140.31
Local Expenditures:	643.00
Total:	$5,783.31

Brief Description of Project:
This project's purpose was to determine which hardware is best suited for secondary instruction in laser technology and develop instructional modules to complement the electronics curriculum guide. Electronics teachers were trained to use laser equipment and integrate laser technology into the curriculum.

Objectives:
1. To select appropriate laser instructional materials and equipment for integrating laser principles and uses into the electronics curriculum for teaching students the basic theory and practice of using lasers in industrial applications.
2. To train electronics teachers to use laser equipment and to integrate laser technology into the curriculum.
3. To develop instructional modules for teaching laser technology to secondary electronics students.
4. To determine the feasibility of teaching laser technology as an integrated subject within electronics.

Procedures:
1. Selected two brands of laser hardware.
2. Developed curriculum guide to be used with either brand of laser.
3. Attended laser training seminar at Central Carolina Community College.
4. Used modules in classroom and tested students. Students were visibly motivated and 100% of students tested over 75%.
5. Held instruction seminar for teacher during summer workshop.

Products:
1. Lesson plans
2. Curriculum guide (4 units) covers basic laser technologies
3. Lab experiments to complement the curriculum guide
4. Unit test

General Evaluation:
Laser technology can be taught on the high school level with students having a very high success rate. Lasers can be very motivational and require from low to high expenditures, depending upon an individual situation and desired outcome.

Comments:
Laser tecnology should be included in the electronics curriculum guide as an optional part of the required course of study.

ABSTRACT
Vocational Education Exemplary and Innovative Projects
1988-89

Title of Project: Laser Technology In Electronics

LEA: Lee County

Project Coordinator: Everette Bradley

Address: P. O. Box 1010
Sanford, NC 27330

Telephone No. (919) 774-6226

Project Period: July 1, 1988 - June 30, 1989

No. of Students Benefiting from Grant: 45

No. of Teachers Involved: 1

Organizations or Companies Involved with Project:
Central Carolina Comunity College
Carolina Training Association
Local Advisory Committee

Expenditures from Grant Funds:	$6,000
Local Expenditures:	1,000
Total:	$7,000

Brief Description of Project:
This project identified several appropriate laser technology manufacturing sources, developed a laser technology instructional unit, and provided staff development for teachers to use laser materials and equipment.

Objectives:
1. To assess the market and select laser instructional material and equipment for integrating laser principles in the Electronics III curriculum.
2. To provide training for electronics instructor to use laser equipment.
3. To develop instructional teaching materials to use in training students to use and maintain laser equipment.
4. To test the teaching of laser technology in classroom/lab situation.

Procedures:
The Electronics Teacher carried out the procedures of this project. After meeting with the Laser Technology Advisory Committee, a course of action was plotted. This involved researching the market place for laser instructional materials and equipment before making the selection. The purchases were made to include training on the use of Laser equipment. The instructional material and equipment were tested by interfacing it with the electronic instructional material and equipment used in the electronics lab. Advisory committee was invited numerous times to see and advise as the project was developed. During the second half of the school year, the teacher developed instructional teaching material in laser technology. These materials were typed and reproduced in a presentable fashion.

Products:
Laser Technology Instructional Unit

General Evaluation:
In general, the project was evaluated by the instructor, local director, state consultant in T & I and the local advisory group. All evaluations were positive.

Integrative Approach to Assessment and Support Services

The Carl Perkins Vocational Education Act of 1984 mandated the coordination of services for disadvantaged and handicapped among vocational education, special education, JTPA, and vocational rehabilitation services. Many projects are implemented in LEA's utilizing a wide range of funding sources. Although these projects are serving the same student clientele, there is little or no coordination of services and, in many cases, the services are duplicative. LEA's can provide a wide range of comprehensive services with an integrative model that will facilitate the coordination of funding and/or services and program development among vocational education, special education, regular academic teachers, JTPA, Chapter I, vocational rehabilitation, guidance personnel, dropout prevention personnel, and community-based organizations.

ABSTRACT
Vocational Education Exemplary and Innovative Projects
1988-89

Title of Project: Intergrated Approach to Assessment and Support Services

LEA: Asheboro City

Project Coordinator: Harriette Cox

Address: P. O. Box 1103
Asheboro, NC 27204

Telephone No. (919) 625-5104

Project Period: July 1, 1988 - June 30, 1989

Organizations or Companies Involved with Project: 20

Expenditures from Grant Funds:	$50,000
Local Expenditures:	-0-
Total:	$50,000

Brief Description of Project:
Project Co-Operate was designed to identify and bring together the programs from various community service agencies and the schools, so that special needs students may be aware of and have access to all of these services.

Objectives:
1. To identify and describe all programs, program specifications and funding sources which currently address the needs of disadvantaged and handicapped youngsters, grades 6-12.
2. To access such programs for duplication of content and skills and to determine whether such duplication is effective and necessary.
3. To develop a model for assessment and delivery of services which eliminates ineffective duplication and which is appropriately articulated grade to grade, school to school and within a grade level.
4. To establish a systematic dialogue among agencies serving this particular student population, again with an emphasis on avoiding duplication of assessment and services.
5. To develop an annual assessment model for reviewing services and for both short and long-range planning, thereby ensuring continued avoidance of duplication.
6. To reduce the drop-outs by 5% each of the next three years by providing more focused vocational and support services to high-risk students.

Procedures:
Project Co-Operate was developed to identify and describe all programs available through the Asheboro City Schools and a variety of Randolph County service agencies which currently address these needs, more specificially the needs of students in grades 6-12.

Interviews were conducted with academic teachers, school support personnel and directors of human service agencies who currently deliver services to the disadvantaged and/or handicapped student. Information obtained identified the available resources, target populations, funding sources, description of services, necessary qualifications for entry and sources of referral. In addition, service providers were asked to identify school personnel contacts, if applicable. Teachers and auxiliary personnel provided information related to their role in assessment procedures as well as identification of support personnel from the school and the community.

Service agencies examined were selected from two groups: the Randolph County Interagency Council, a non-profit organization whose primary goal is to improve communication among agencies and to increase public knowledge and awareness of available services; and the Vocational Interagency Process Committee (VIP), whose major purpose is to develop a system of transitioning individuals with special needs into employment. All programs for the handicapped and/or disadvantaged at North Asheboro Middle School, South Asheboro Middle School, and Asheboro High School were examined.

Products:
Book having these three sections: community support services for the handicapped and/or disadvantaged; school-based educational programs for the handicapped and/or disadvantaged, Grades 6-12; and school-based services for the handicapped and/or disadvantaged, Grades 6-12.

General Evaluation:
There are a number of program and services available to handicapped and disadvantaged students in our community and school system. Because the various agencies perform highly-specialized services, incidences of duplication are not known, but rare. Job descriptions of agency personnel, increased demands on time and maximum case loads minimize overlapping between agencies.

Quality educational programs and key personnel provide much needed services to the handicapped and disadvantaged in the school system. Site-based decision making allows each school to identify needs and plan for programming accordingly. Allocations from local, state and federal funding sources seek to continually improve the quality of services available for the special needs population. However, the growing concern of duplication of services becomes a question of how these services and programs are coordinated from school to school and program to program.

Presently, there is no coordination effort in the schools. Case loads, conditional restrictions of program as defined through funding, and the lack of an internal coordinator all serve to compound the problem. The potential for duplicating some services while neglecting to deliver others is highly probable.

The following model demonstrates how such duplication might occur. The hypothetical student to be examined is identified as a disadvantaged juvenile convicted of substance abuse. Within the school this student will be seen by the guidance counselor, school nurse, home schools coordinator and the JTPA counselor. Outside agencies involved in the rehabilitation process are juvenile authorities, Mental Health Substance Abuse Counselor and possibly the Department of Social Services. Because there is no coordinating entity, the student could be pulled from class an average of 5 - 7 times in one week to discuss primarily the topics of substance abuse and drop out prevention. Overlapping may occur. Our top priority should be a search for order - a better way to insure that students requiring services, receive maximum services while spending the least amount of time away from class.

Presently there are no clear cut answers to this dilemma. One possible solution might be to initiate greater articulation through guidance services with all school personnel and representatives of human service agencies that work with the handicapped and disadvantaged student. At the beginning of each school year, representatives from the various agencies and guidance counselors from all the city schools will meet to discuss available services, the contact person in each situation, and better ways to serve shared clients while maximizing services with the least amount of time away from classroom instruction.

Electronic Mail Network

Electronic mail network systems are becoming more cost effective because of recent technological developments. They have the potential of eliminating duplicating, postage, paper, and secretarial work hours for sending mail to multiple receivers. They also allow instructors to share instructional and curriculum ideas quickly and easily.

ABSTRACT
Vocational Education Exemplary and Innovative Projects
1988-89

Title of Project: Electronic Mail (E-Mail)

LEA: Rutherford County

Project Coordinator: Clarence Campbell

Address: 219 Fairground Rd.
Spindale, NC 28160

Telephone No.: (704) 286-2757

Project Period: Ended July 1, 1988 to June 30, 1989

No. of Students Benefiting from Grant: 800-1,000

No. of Teachers Involved: 18

Organizations or Companies Involved with Project:
FMS Electronics
NC State University
Isothermal Community College

Expenditures from Grant Funds:	$15,000.00
Local Expenditures:	425.69
Total:	$15,425.69

Brief Description of Project:
In the fall of 1988, Rutherford County Schools was the recipient of a grant to be used to install an electronic mail network within its high schools and other neighboring school systems. Those school systems participating in the project are Kings Mountain City Schools, McDowell County Schools, Polk County Schools, Rutherford County Schools, and Tryon City Schools. Eight senior high schools were involved in the electronic mail network. Rutherford County Schools Department of Vocational Education served as host of the network.

Objectives:
1. To test a model for using an electronic mail/electronic bulletin board system in the participating high schools.
2. To assess the advantages/disadvantages of using the system in communicating electronically.
3. To determine the real cost of such a system and to reveal "hidden" cost in using electronic mail.
4. To assess the types of personnel development required to implement an electronic mail network effectively.

Procedures:
The software used in this project is Xenix, a derivative of AT&T's Unix system. This is a powerful and diverse system capable of presenting a state-of-the-art communication network. Because of its diversity, personnel development is needed, but the system is operable with relative ease by the user who has little knowledge of word procesor software.

The process for implementation was relatively simple. There were to be a minimum of six LEA's participating. Once approval was received from SDPI, vocational directors of the participating LEA's were contacted by the project coordinator and given information about phone line installations. In the process, the watts line and all mail station lines were installed as per the grant specification. All hardware items such as modems and connecting cables and the Tandy 4000 computer and printer were ordered and put in place by the project coordinator and vocational director. The Xenix software package was ordered and installed into the host system by Dr. Griggs McKinnon, Computer Specialist for Rutherford County Schools.

The network installation was completed in mid-January. Several of the network participants attended a workshop in Raleigh. Also, an extensive workshop was conducted on the Xenix system at the Kings Mountain City High School on January 24, 1989. This was our official day of going on-line with the system. We have had to make minor adjustments during the project period with equipment and software.

Products:
A training guide for users of the E-Mail system using Xenix software was prepared by Mrs. Jackie Bridges, Business Education instructor, at East Rutherford High School. Since the operator's manual goes into great depth on specifics of the system and there is a tutorial portion included in the program, Jackie is writing a very simple guide to lead the user into getting booted up with "bitcom" and addressing the various features of the system package.

General Evaluation:
Evaluation of the project has been on going. The project coordinator has worked with each participating school to discover problems, and Dr. McKinnon has been superb in getting those problems solved. Each school site was visited several times during the project period and, in almost every visit, the teacher or a student was found using the system. Another indication of use and value of the project is the fact that approximately 2,700 messages were sent or received through the network from January to June of 1989. We plan to keep the network in operation in 1989-90 with every original participant agreeing to continue and pay a share of the cost of the 800 watts line. We welcome additional members or school systems to join the network as we continue to expand its usuages.

Comments:
The six participating LEA's are very pleased with the results of this communications project. We have gained extensively from it. All of the knowledge and equipment acquired will be used within the network for a good long while. Thank you for providing the opportunity.

Now that the lines of communication along with the necessary hardware are in place, we have good test model to use and observe. All points of mail distribution were located in the business education department of each high school. One participating school had hardware in place in the agriculture lab; therefore, we were able to get that program on line with Agri-Net late in the project period.

Immediately, teachers on the network began to express pleasure with the advantages of this type of communication. We had a flurry of activity with everyone wanting on-line at the same time. We expanded with a second local telephone line and made access more readily available. There have been some disadvantages to the system as well. Since participants began to learn more efficient operation procedures, the cost has not been prohibitive. During the project period the monthly phone charge for the watts line was $366. We have agreements with each participating school system to continue the network into and throughout the 1989-90 school year.